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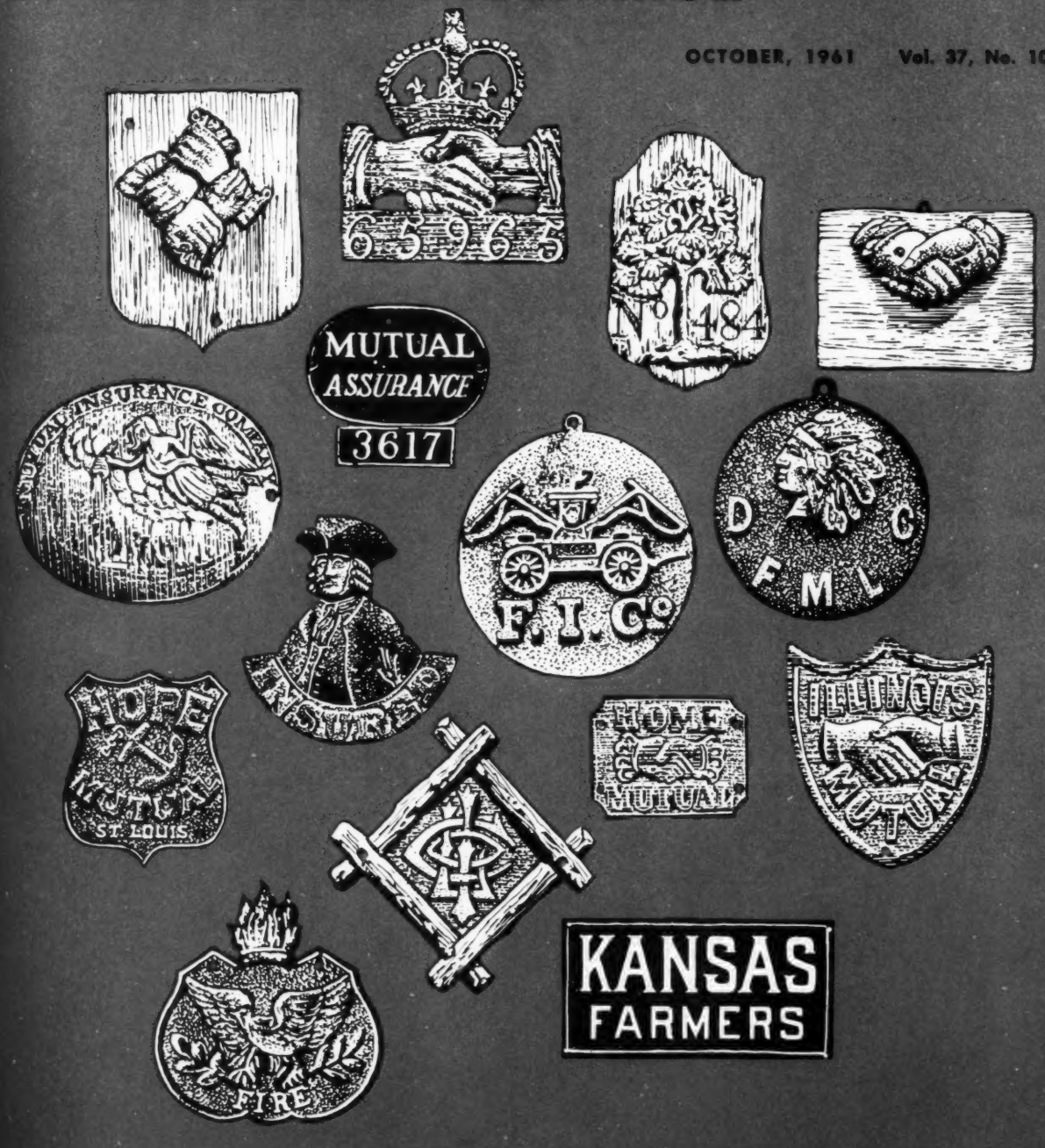

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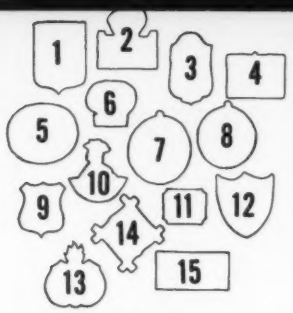

OUR COVERS

GALLERY OF FIRE MARKS

1—The Philadelphia Contributionship for the Insurance of Houses From Loss by Fire, Philadelphia, Pennsylvania, 1752.
2—Hand-in-Hand Fire and Life Insurance Society, London, England, 1696.
3—The Mutual Assurance Company for Insuring Houses From Loss by Fire, Philadelphia, Pennsylvania, 1784.
4—Baltimore Equitable Society, Baltimore, Maryland, 1794.
5—Mutual Insurance Company, Charleston, South Carolina, 1797.
6—Mutual Assurance Company, for Insuring Houses From Loss by Fire in New York, New York, 1787.
7—Firemen's Insurance Company, Baltimore, Maryland, 1825.
8—Duchess County Fire, Marine and Life Insurance Company, Poughkeepsie, New York, 1814.
9—Hope Mutual Insurance Company, St. Louis, Missouri, 1857.
10—Penn Fire Insurance Company, Pittsburgh, Pennsylvania, 1841.
11—Home Mutual Fire and Marine Insurance Company, St. Louis, Missouri, 1845.
12—Illinois Mutual Fire Insurance Company, Alton, Illinois, 1839.
13—Eagle Mutual Fire Insurance Company, Boston, Massachusetts, 1895.
14—Lumbermen's Insurance Company, Philadelphia, Pennsylvania, 1873.
15—Kansas Farmers Mutual Fire Insurance Company, Abilene, Kansas, 1882.

(See also *Annals*, page 11.)

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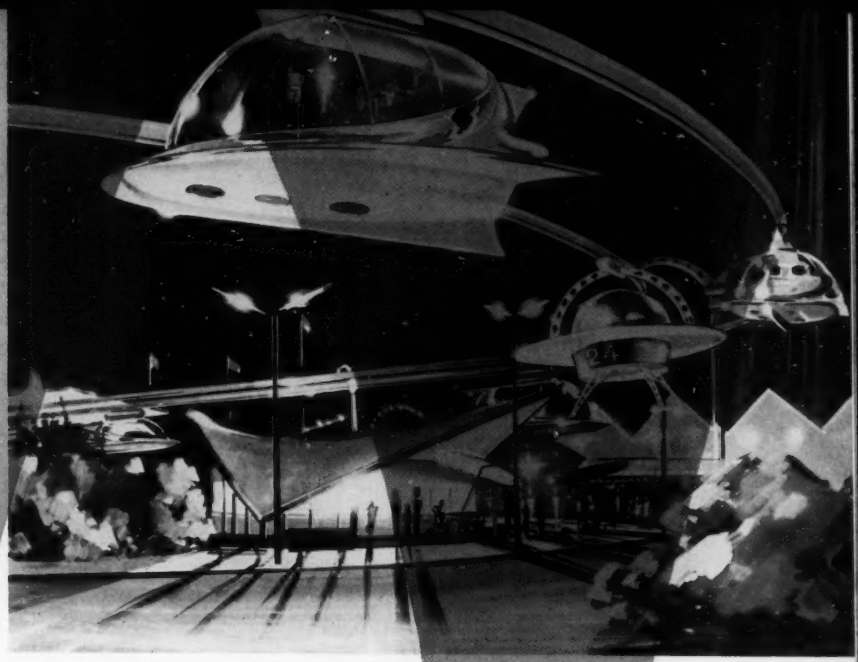


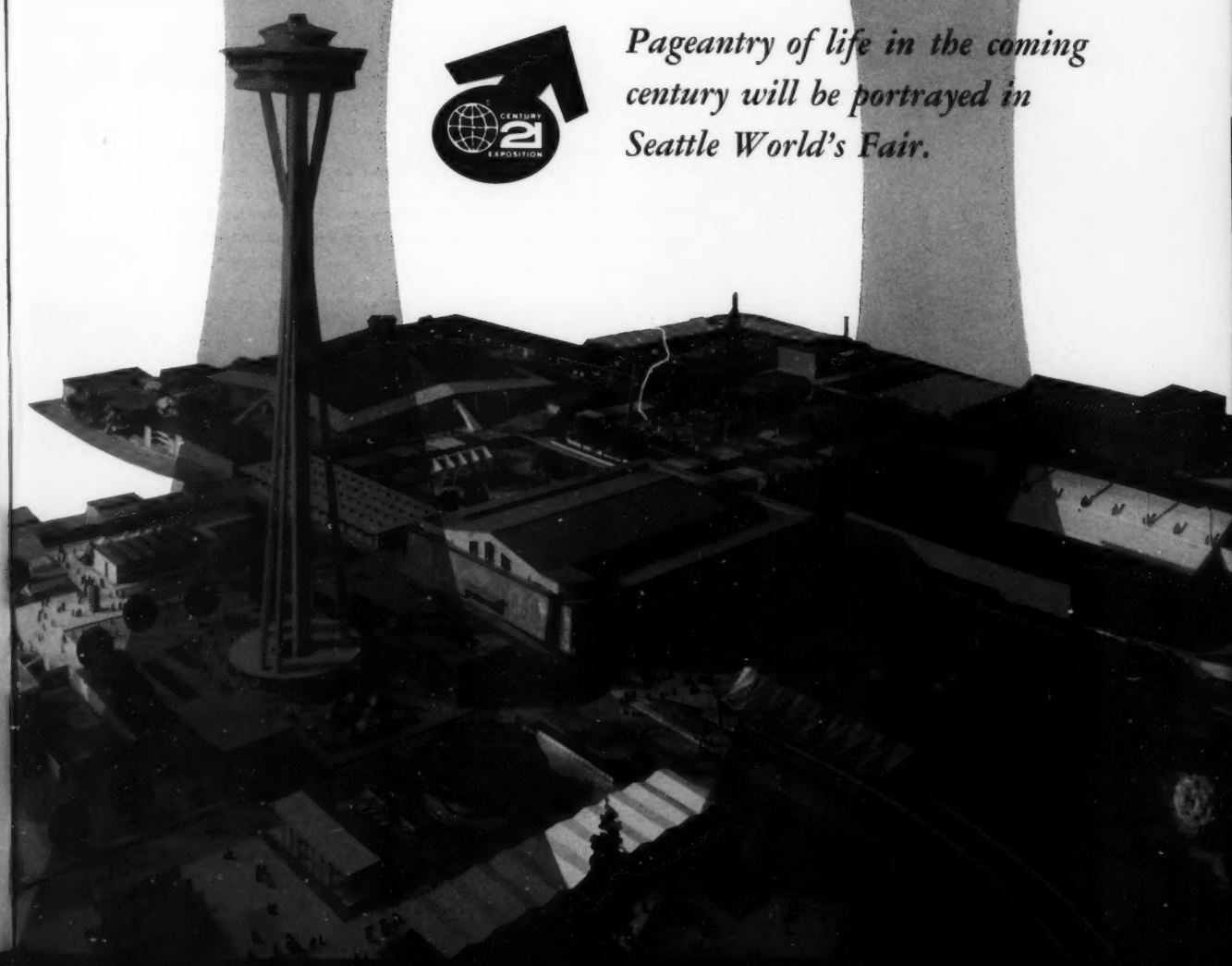
Travel of the future will be a Fair reality in this monorail taxi to whisk an estimated 10 million visitors to main exhibit areas. Even the cars will be of futuristic design. System will make circuit of six stations.

Spread over 74 acres, the $80-million Fair, first of world scope in the U. S. in 22 years, will be a vast showcase for America's scientific acumen. Space Needle will symbolize theme, "Man in the Space Age."

Fred Milkie, Seattle Times

BEYOND TODAY'S HORIZONS

Pageantry of life in the coming century will be portrayed in Seattle World's Fair.



Beyond Today's Horizons

A BETTER SPOT than Seattle could not have been picked to dramatize man's space-age future.

Sights of that city have been set on futurity ever since the State of Washington came into the Union 72 years ago with the Indian-word motto of "Al-Ki." That means by-and-by.

As Washington's largest city, Seattle in one way or another has been in on the consummation of many fantastic "by-and-bys"—the gold strike in California in 1849, the coming of the railroads after 1884, the Alaska gold rush in 1897, Seattle's own Alaska-Yukon-Pacific Exposition in 1909 and the opening of the Panama Canal in 1914. Seattle itself is a by-and-by transmutation of what once was a small lumber town.

Now as the site of the Century 21 Exposition, April 21 to October 21, 1962, Seattle will stage a world premiére of by-and-bys foreseen for the year 2000 and beyond — regular trips to the moon, planes to reach any spot in the world in an hour's time, underwater ships, jet trains, cars with engines the size of typewriters, inflatable airplanes. These are not hopeless fantasies but realistic concepts based on research utilized by the designers for the Exposition's theme: "Man in the Space Age." For the century ahead they are probably no more hallucinational than was the moving sidewalk that created a sensation at the Paris World's Fair in 1900.

Mutual insurance has already demonstrated on the Seattle scene how by-and-bys eventually transcend all doubts. As recently as 25 years ago extensive air travel was still in the realm of by-and-by. But officials of the Northwestern Mutual Insurance Company, now one of Seattle's multimillion dollar businesses, foresaw the day when air traffic on Seattle's skyline would be thick and fast.

As a public service the company in 1936 erected atop Northwestern's 13-story building a 60-foot steel tower capped with a 1,000-watt revolving red light. The beacon is equipped with an automatic lamp changer, revolves six times per minute, is regulated by a time clock and must shine from sunset to sunrise. Operated

Nation's first commercial monorail system will offer high-speed mass transportation from downtown Seattle to Fair as a space-age solution of commuter problems. View shows system as it will appear in downtown area rushing 10,000 passengers an hour to the Fair site.

Linking the space age with the earlier air age on the Seattle scene will be the beacon of FAA note erected 25 years ago on Northwestern Mutual Insurance office building.

under the authority and regulations of the Federal Aviation Agency, the beacon officially shows on all government air maps and is classified by the FAA as a "hazard beacon" or "true light." It is thus a fixed navigation point for air operations and a signpost of downtown Seattle but more symbolically has towered for 25 years as an early foresign of the space age.

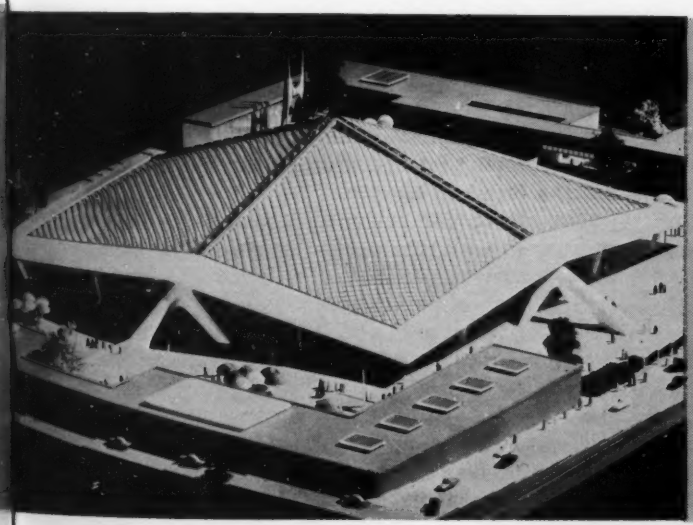
Century 21's counterpart of the Northwestern Mutual beacon will be the Space Needle rising 600 feet in the air to symbolize the theme of the fair. At the 550-foot level there will be a revolving restaurant with an observation deck above that. The dining area, seating 220 persons and revolving like a huge long-playing record, will make the 360-degree turn once an hour, giving diners a panoramic view of mountains, lakes, salt water, tall timber and Greater Seattle. To relate the new space age with the earlier air age, visitors will be able to see the Northwestern beacon from the Space Needle.

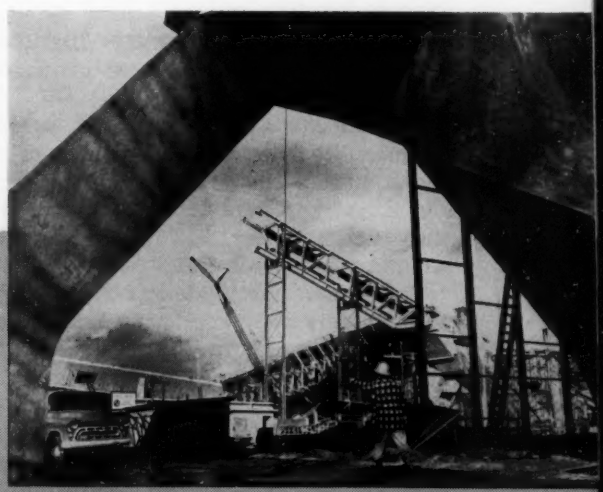
Vying with the Space Needle as a second distinction of Century 21 will be two different monorail systems which may ensure Seattle's by-and-by future as the monorail capital of the North American continent. One of these systems will be our first commercial monorail system, double track over a 1.3 mile route from downtown Seattle to the fair. At the exposition grounds, a second type of monorail, suspended beneath the tracks, will take fairgoers on a circuit of the exhibition areas.

Although not visible, insurance will be ubiquitous on the 74-acre site in protecting the value of life and property from the 30 to 35 nations participating in the $80 million spectacular. Value of buildings and land alone is estimated at $20 million; crowds are being estimated to a total of 10 million people. Exhibitors from commerce and industry, many of whom are regular policyholders with mutual property and casualty insurance companies, will have millions at stake in their exhibits.

Certain basic insurance contracts have been in force from the time Century 21 began taking definite form several years ago. These consist of a broad form bodily injury and property damage policy covering the exposition's activities world-wide, 24-hour air travel insurance covering all employees, blanket fidelity bonds covering all employees, and certain basic property covers on original buildings. The whole range of insurance coverages will come into full effect as more workmen, servicemen, concessionaires, exhibitors and visitors converge on the scene.

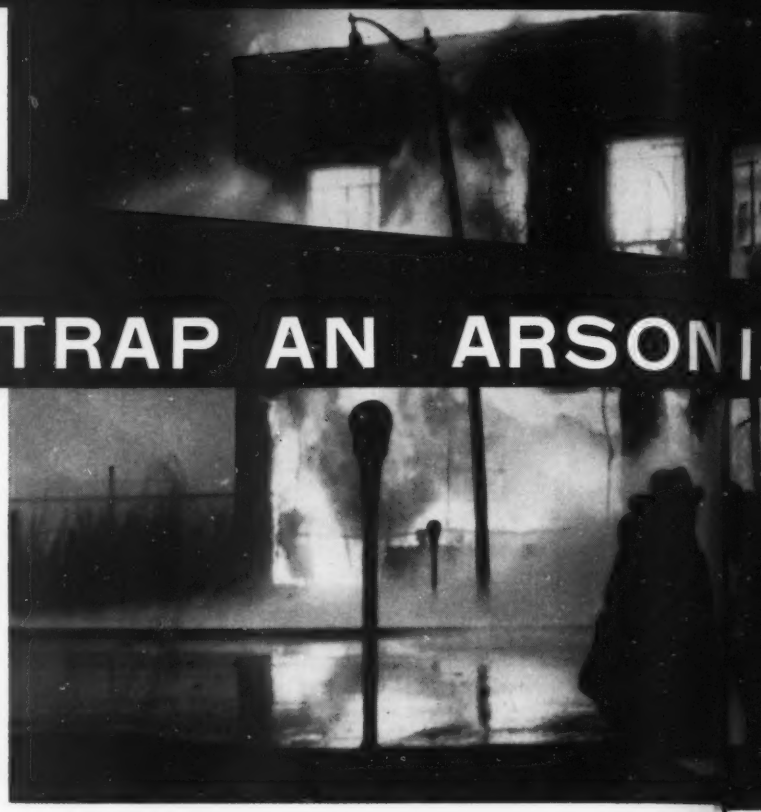
As a U. S. world's fair, Century 21 will be the first since 1939. The last of it, as portrayed in the exhibits, remains to be realized in the way we will live, work, eat, travel and play in the coming space age. ⊙





Safety and loss prevention, keystones of mutual insurance, are watchwords in Fair construction. Buttresses shown here are for huge coliseum which will become Seattle's 18,000-seat sports-convention hall.

Finished coliseum building will cover three and one-half acres, have 11-story height and provide 129,000 square feet of unobstructed space. Most of the Fair buildings will become a Seattle Civic Center complex.



HOW TO TRAP AN ARSONI

Law enforcement agencies and insurers perfect new techniques to apprehend fire setters.

"IT WAS JUST A GOOFY IDEA," one of the country's newest arsonists confessed when caught.

Not all arson cases are that senseless or simple. But new scientific methods of recovering and examining evidence of arson are yielding dramatic results as more fire marshals and insurance adjusters learn how to sniff an arsonist and stay on his trail.

This antiarson crusade was impelled by a continuing increase in suspicious fires climaxed by the recent surge in fires set to defraud insurers. Incendiary fires have doubled in the past decade and caused as much as 30 per cent of the nation's $1.5 billion fire loss in 1960, making arson a major factor in boosting fire insurance rates. Fraud fires in the 1960-61 fiscal year nearly doubled the previous year's figure. Arrests for arson stand at a 15-year high.

Blame for much of the present arson spree is placed on "professional torches," hired arsonists who are agents of those bent on cheating insurers. Juveniles are said to be responsible for a large portion of set fires. Other arsonists are criminals who set fire to cover deeds ranging from petty larceny to murder; those who seek thrills or revenge; and pyromaniacs who offer twisted reasons for fire setting.

Whatever arsonists' motives may be, their methods are ensnaring more and more of them in the widening web spread by law enforcement officials and insurance adjusters.

Arson is still one of the most difficult crimes to prove. But new and improved techniques are a boon in getting evidence of the three elements for conviction: that burning occurred; that the burning was the result of a criminal agency; and that the accused was responsible for the criminal agency.

The search for evidence of arson begins as soon as a fire alarm is sounded, in some cases even earlier. Some police departments watch failing businesses as a warning to would-be arsonists, but in at least one such case the building burned the night after the watch ended. Automatic alarms and sprinkler systems help thwart arson by squelching flames and preserving evidence.

When firemen arrive at a fire scene, they look for signs that label a fire as suspicious, including

Arsonists, especially pathological firesetters, often hover watchfully at blazes they set. Cameras turned on the crowd frequently record the faces of overly-interested spectators.

multiple fire sources, presence of ignitors or accelerants, evidence of previous suspicious fires, or destruction of business records when little else burned. Veteran investigators say that insurance policies, bank books and accounts receivable almost never burn in suspicious fires, but accounts payable are nearly always destroyed. Incendiary fires in homes seldom touch such beloved possessions as pictures and phonograph records.

Investigators use cameras to establish the general appearance of the burned property and presence and position of any material brought in to feed flames. Cameras that provide finished pictures on the scene aid fire fighter-photographers in collecting clues and evidence. Photographers often turn their cameras on the crowd to record faces of spectators.

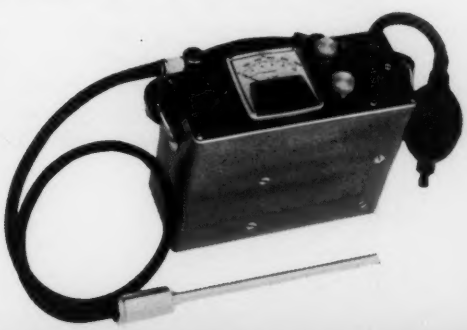
Fire probers first seek the point of origin, usually the lowest point of burning. Finding the source of fire sometimes concludes an arson investigation because an accidental cause is established. Sieving ashes may also yield telltale delayed action igniting devices as candles, ammunition, mechanical match strikers, electrical sparking devices, magnifying glasses or chemical ignitors. Fire fighters can often determine the time of burning at given points by testing depth of char with a measured probe.

Investigators move quickly to find traces of kindling material, especially flammable liquids, which arsonists mistakenly believe will improve their work. An investigator places samples of saturated materials in protective containers, labels them and submits them for laboratory analysis. Partially-burned documents may be lacquer-treated and checked for decipherable writing by infrared photography, ultraviolet light or parallel beams of light. Arsonists, mistakenly imagining that paper burns easily, often leave telling evidence, only slightly charred. Cloth ash may be tested for mineral composition and identified by use of a stereoscopic binocular microscope.

Sometimes bits of evidence show that a fire was set to cover a murder or other crimes. Suspected bloodstains, for example, will yield to analysis. And while heat will shrivel and distort the human frame, pathologists may determine whether the deceased was alive at the time of the fire. At times fingerprints found at fire scenes on containers or windows enter into arson investigation.

Johnson-Williams, Inc.

Hydrocarbon indicator, one of many scientific devices used to trap arsonists, finds traces of volatile liquids at fire sites. Dyes were formerly used to detect flammable petroleum products used as accelerants in set fires.



Mutual Investigation Bureau

Police and insurance investigators caught the owner of this failing business in an arson plot after he accused fire fighters of stealing a TV set. "Auction sale" sign suggests fire was set to collect insurance.

Auto-arson chicanery is studied by fire marshals, policemen at seminar put on by National Auto Theft Bureau. They learn auto fires are seldom set accidentally and that gas tanks almost never explode. Auto arson is decreasing, but evidence is hard to get because such fires leave only metal, dry ash.

National Auto Theft Bureau

How to Trap an Arsonist

Modern crime laboratories, staffed by trained technicians and usually maintained by police departments, are equipped with vacuum distillation devices to extract flammable liquids. Samples too small to be identified by distillation may yield to gas chromatography, the separation of closely related compounds by absorbing them in various layers of filter paper. Gas chromatography will determine subtle differences between brands of gasoline, between batches of the same gasoline and between ethyl and regular gasolines of the same brand.

Even partially-burned matches may be turned into important evidence through a file of match manufacturing techniques and materials kept by the FBI. A Pacific Coast forest fire was traced in this way to a newcomer who brought in a match not manufactured on the Coast.

For the past 20 years the lie detector has been a special aid in following up laboratory findings and in checking on insurance, tax and business records in suspected fires.

As for results, one record indicates that one arrest is made for every five suspicious fires investigated, but the ratio of convictions to arrests has improved. The National Fire Protection Association's model arson law, now in effect in 41 of 50 states, defines four degrees of arson. It has reduced excessively tough penalties that made it extremely difficult to gain convictions of suspected arsonists.

Arson fighters' most notable success has been the reduction of burnings of automobiles from 15.84 per 100,000 vehicles in 1954 to 9.74 in the year ended August 31, 1960. Credit for this achievement goes to the National Auto Theft Bureau, an insurance - supported agency that began to investigate auto fires in 1938. Auto arson presents special problems because the arsonist may pick time, place and circumstances and leave only a metal shell and dry ash.

Insurance companies forestall arson for profit by trying to eliminate the "moral hazard" in writing policies; some offer rewards for information about fire setting. Insurers also keep comprehensive records of persons known to have set fraud fires. Adjusters representing mutual insurance companies have been trained to recognize fires of irregular origin and to report them to the insurer. If the company is a member of the Mutual Investigation Bureau, it generally enlists the aid of this investigative organization. MIB is headed by Richard C. Steinmetz, a criminologist and arson expert,

More desire than knowledge impelled arsonist to concoct this ineffective trail of gasoline-soaked burlap and canvas. Arson investigators say that mentally-defective firesetters who use simple devices leave little evidence, are hard to apprehend.

Three photos Mutual Investigation Bureau

Electric timer set to trigger fire in sausage factory failed to go off, but arsonist was trapped when he returned to find cause of failure. Professional torches made comeback after recession, repeating pattern followed in 1930s.

who directs a staff of special agents. A similar service is performed for stock companies by the arson, theft and fraud department of the National Board of Fire Underwriters.

Fire set by pyromaniacs and other "external incendiaries" are included in perils covered by standard fire policies, and such losses are promptly settled by insurers. If, however, there is substantial evidence that the insured set the fire or arranged to have it done, the insurer will normally withhold payment until any criminal charges are heard. If the insured is convicted of arson, the evidence is usually sufficient to block any recovery by the insured under the policy. Even if an insured is acquitted of criminal charges of arson, he may be forced to bring civil suit to gain recovery. In such suits the insurer need only present a preponderance of evidence indicating that the fire was set to defraud the insurer.

This battle of wits between arsonists and investigators goes on and on world-wide. The International Association of Arson Investigators links 600 arson sleuths in countries ranging from Thailand to England where "maliciously setting fire to Her Majesty's dockyards" is still punishable by death. ⊙

Trained arson investigators found enough evidence in charred hole to gain a confession and conviction of rural arsonists who burned their barn to cheat insurance company. Taking the profit out of arson is aim of mutual insurance investigators.

Mileage Death Rates on Turnpikes and Rural Roads

TURNPIKES	Deaths per 100,000,000 Vehicle Miles				
	TURNPIKES				State rural roads, turnpikes excluded, 1960
	1957	1958	1959	1960	
ALL TURNPIKES	2.6	2.8	2.8	2.2	7.1
Connecticut Turnpike	—	1.5	1.4	2.4	2.8
Sunshine State Parkway (Florida)	2.5	4.1	2.6	1.4	9.0
Illinois Tollway	—	4.6	0.5	2.0	8.0
Indiana East-West Toll Road	2.6	4.6	4.5	2.5	7.1
Kansas Turnpike	5.9	8.1	5.5	4.3	6.2
Kentucky Turnpike	—	6.0	.0	5.0	9.2
Maine Turnpike and Extension	2.1	1.6	5.1	1.9	4.5
Massachusetts Turnpike	3.3	3.2	2.9	2.3	3.2
New Hampshire Turnpikes	.0	3.4	4.1	2.7	4.3
Garden State Parkway (New Jersey)	1.3	1.0	2.1	1.0	2.9
New Jersey Turnpike	2.0	2.4	1.5	1.6	2.9
New York State Thruway	1.9	0.9	2.8	2.0	4.7
Ohio Turnpike	3.1	3.2	1.8	1.9	7.3
Will Rogers and Turner Tpkes. (Oklahoma)	3.4	9.1	6.1	4.2	7.3
Pennsylvania Turnpike	3.3	4.1	3.7	3.1	4.2
Richmond-Petersburg Turnpike (Virginia)	—	.0	0.7	1.3	5.7
Dallas-Ft. Worth Turnpike (Texas)	.0	4.1	2.1	1.9	7.1
West Virginia Turnpike	14.0	8.0	13.5	2.9	8.0

National Safety Council, Accident Facts 1961

Turnpike travel will be the rule rather than the exception when the 41,000-mile network of Interstate and Defense Highways is completed in 1975. More than 11,000 miles are already open, with another 3,000 miles under construction. System will carry about a fifth of total traffic.

U. S. Bureau of Public Roads

Highways of turnpike design are safest surface travel, as shown in this chart comparing turnpike death rate with rate for state rural roads. National average for rural roads in 1960 was 7.1 deaths per 100 million vehicle miles. Turnpikes were far safer with a 2.2 average.

TURNPIKES

Accident statistics are a tribute to new highways and to safeguards on older thruways.

AFTER WATCHING AN AUTO weave crazily from lane to lane on a wide, straight Midwest turnpike, a state trooper curbed the vehicle, expecting to hear a feeble excuse from an inebriated driver.

Instead, he discovered that the motorist, a model of sobriety, had been too busy trying to calm a pet alligator in the back seat to give full attention to driving a straight line.

Few turnpikers travel in the company of large and lively lizards, but too many of them practice unsafe driving habits which can be just as dangerous.

For this reason, turnpikes, as safe as they are, still require rigid law enforcement and periodic vehicle inspections. It seems, said one highway official, that motorists are bent on devising ways to nullify the built-in safety features of modernized turnpikes.

Despite any motorists' mania, turnpikes are maintaining a commendable record of reducing highway traffic fatalities. Last year the death rate on turnpikes was 2.2 per 100 million miles while state rural roads had a national average death rate of 7.1. One of the most striking examples of turnpike vs. conventional road safety is Florida's Sunshine State Parkway, last year reporting 1.4 deaths per 100 million vehicle miles while the rate on state rural roads was a shameful 9.

Turnpikes, because of their physical makeup, are obviously safer than their narrow-laned predecessors. They're wide, free of intersections, stop signs and oncoming traffic. Unfortunately, this ideal highway combination is sometimes challenged by not-so-ideal motorists and their defective vehicles.

Pennsylvania's Turnpike, the nation's first and perhaps most famous superhighway, has been eminently vigilant in preventing mechanical wrecks and unreliable drivers from entering the "Big Road." Hundreds of thousands of vehicles are checked annually, with a large percentage of them failing to pass the turnpike's requirements.

Poor tires, faulty headlights or taillights, defective trailer hitches, and disrupted vision through the windshield or back window are just a few of the causes detaining motorists at tollgates.

These defects are usually easy to spot, but discovering faults in drivers is another matter. A recent study on the Ohio Turnpike revealed that more than 70 per cent of the accidents on that highway were caused by human failure. Driving too fast for conditions accounted for 16 per cent; falling asleep at the wheel or driver drowsiness caused another 14.3 per cent. Intoxication, recklessness and driver inattention were to blame in the remaining 40 per cent of accidents.

These dangerous motorists don't always provide a clue to their driving inabilities until an accident has occurred. Nearly all drivers, good, bad or otherwise, are the picture of safe, courteous motorists when paying their tolls. When the interchange lights are far behind they revert to their careless and dangerous driving habits.

Fortunately turnpike police patrols apprehend many of these potential killers. Indiana Toll Road police, in one month recently, curbed and ticketed 725 speeders. In one year, 6,000 motorists were convicted of traffic violations as a result of being stopped by the Hoosier State's toll patrol.

Turnpike commissions have been clamping down hard on sleepy and intoxicated drivers, blamed for a high percentage of the nation's turnpike accidents. Toll collectors have been directed to observe closely the physical conditions of persons seeking entrance, and turnpike

Motorists' first experiences with turnpike cloverleafs can be confusing, to say the least. But these engineering mazes eliminate intersections, greatly reducing accident rates.

More Miles of Safer Turnpikes

police are under orders to curb and arrest drivers suspected of heavy drinking.

Holiday weekends, when hundreds of thousands of partygoers and other travelers take to the roads, are the worst bane of turnpike safety records. However the month of October, free of weekend holidays, is not immune to highway horrors. Last year 3,690 persons died in traffic accidents during October, the most gruesome month of 1960. Without turnpikes, safety experts surmise, the death tolls would be more horrendous.

For example, of the 509 lives claimed on highways during the past Fourth of July weekend, only 10 fatalities occurred because of turnpike crashes. Yet motorists traveled 252,103,585 miles on turnpikes, a large percentage of the total traffic.

Safety, although the major bonus of turnpike driving, is not the only advantage. Several toll roads now provide current weather forecasts at interchanges. Turnpike police provide free gasoline and water for hapless motorists. Free turnpike maps clearly show all turnoffs and pin-point service stations, restaurants and motels. At least two troopers have displayed their cool courage by helping in the delivery of babies, using autos parked on turnpike shoulders as the delivery rooms.

Many accidents are averted right here as Pennsylvania Turnpike officials make spot checks of cars and drivers for the safety of 28 million vehicles now using the 'pike each year.

Pennsylvania Turnpike Commission

By 1975, under the Federal-Aid Highway Act, one fourth of all motor vehicle travel will be on a national highway network built to standards similar to those of turnpikes.

The government act calls for a 41,000-mile, $41 billion National System of Interstate and Defense Highways, now more than one-fourth completed and progressing at a 400-mile-a-month pace. When finished, the system will link 42 state capitals and 90 per cent of all cities with more than 50,000 population. It will be the world's finest example of highway facilities, enabling motorists to drive coast to coast without encountering a traffic light.

Already the combination of the New York Thruway, the Pennsylvania and Ohio Turnpikes and the Indiana Toll Road connects our two largest cities, New York and Chicago, with tollgates being the only fixed breaks in the traffic flow. Motorists from North Dakota to Florida and from Connecticut to Oregon are getting similar, if somewhat smaller, stretches of turnpikes.

Experts predict that the completed Interstate System will save motorists $725 million each year in traffic accident costs that have become the bane of insureds and insurers alike. Travel time will be so greatly reduced that truck and bus owners are expected to save another $825 million annually.

To accomplish this gigantic project, the federal government is footing 90 per cent of the bill—with tax money—and the states are paying the remaining 10 per cent. This money is being spent on an estimated 48 million tons of steel, 7 billion bags of concrete and 21 billion gallons of petroleum products, plus the cost of purchasing land and paying workers' salaries.

Mutual insurance companies are playing a prominent role in the construction of the Interstate System by insuring many of the road builders. General liability, fleet operations, contractors' equipment and workmen's compensation coverages are being provided by mutual companies. Mutual automobile insurance policies also will cover millions of owners and their cars when they drive the vast, country-wide network, a 41,000-mile turnpike to transcend all turnpikes. ⊙

FROM OUR ANNALS

FIRE PREVENTION WEEK

October 8-14

Chief Edward F. Deignan, director of fire, Elizabeth, New Jersey, 1961-62 president, International Association of Fire Chiefs, heads the vigilantes who have the leadership for Fire Prevention Week.

FIRE PREVENTION deserves a better record than has accrued to it during the past several hundred years. It has inspired its own distinctive heraldry in the form of fire marks now prized as collectors' items. Thousands of fire fighters have sacrificed their lives in its behalf. Governors and presidents have been putting the signs and seals of their high offices on it for 50 years. If it were observed to the ultimate it would save the lives of about 6,000 people a year in home fires alone. Yet the nation's fire losses in 1960 are totaled by the National Fire Protection Association at more than $1.5 billion. The 1960 loss of life is estimated by the International Association of Fire Chiefs at 11,350.

Seven words are stressed as the solution in this year's Fire Prevention Week: "Don't give fire a place to start." The week had its genesis in the same idea 50 years ago when 22 governors in 1911 proclaimed "Cleanup Day." The annual presidential proclamation of Fire Prevention Week was first issued in 1922. Today nearly all governors also proclaim this week commemorating the Great Chicago Fire of October 8-10, 1871.

But organized fire prevention and fire fighting, as symbolized by the heraldry of fire marks, predates the Chicago fire by more than 200 years. It was the Great Fire of London, September 2, 1666, that gave rise to the first organized fire insurance concern, one of the first to use a fire mark and also one of the earliest to employ its own fire brigade. It was known simply as the "Fire Office," but its mark, "the resemblance of a phenix in a flame," has never been located.

Since then more than 1,800 different fire marks have been located to be recorded in the annals of fire insurance and fire fighting. All of the marks have history directly or indirectly associated with fire-fighting organizations. Early British and European fire assurance concerns maintained their own fire brigades whose function was to fight fires only at those properties displaying the parent company mark. Likewise the first and many of the later American fire insurance companies created fire marks to designate properties upon which they had written policies. The marks not only stimulated competition among the insurance companies but also generated rivalry among the various volunteer brigades and some of our early paid fire departments.

Singularly significant in the gallery of fire marks on the JOURNAL front cover is the hand-in-hand symbol of the Philadelphia Contributionship, the mutual fire insurance company co-founded by Benjamin Franklin in Philadelphia in 1752 and now the oldest active fire insurance company in the U. S. It and the 109 other fire and casualty companies of the American Mutual Insurance Alliance have a combined 8,442 years of experience and service in protecting the value of life and property.

Fire marks are still a part of Americana as company symbols, as antiques and for decorative purposes. But modern fire chiefs no longer need them as a guide. They know their communities down to the last detail of fire protection and fire prevention. As such they have the leadership and direction of the 1961 activities in Fire Prevention Week. And for man power they have 1,855,000 volunteer and paid firemen comprising the nation's fire service.

Fire-fighting heroes who early in the nation's history dramatized the need for fire prevention are memorialized in the statuary group, shown on the back cover of the JOURNAL, which stands in Washington Square of San Francisco. Lillie Hitchcock Coit, who from San Francisco girlhood to her death in 1929 had been a patroness of volunteer firemen, willed funds from her estate for the bronze memorial to honor the city's first volunteer firemen. She also provided the funds for Coit Tower, another memorial to the heroes atop Telegraph Hill. As an honorary member of the fire-fighting Knickerbockers, she probably would have been the first woman to crusade for fire prevention. ⊙

MAGIC MEN ON SPOTS

Drycleaners now tackle everything from Santa's beard to Confederate battle flags.

SHERLOCK HOLMES would have been proud of the sleuthing done on two pairs of men's slacks in Silver Spring, Maryland. Both pairs had odd-looking curved streaks on the upper right side, and a drycleaner sent them in for examination by clothing damage experts. They probed into the mystery, then inquired if the owner was a right-handed smoker. Yes, he was. Then tell him, said the experts, to stop striking matches on the seat of his pants. The friction was causing dacron fibers to fuse and produce permanent discoloration.

Such detective work is an everyday occurrence at the National Institute of Drycleaning, research arm of the nation's $2 billion drycleaning industry. Into its buff brick headquarters at Silver Spring come more than 30,000 garments a year for analysis, testing and special treatment, most of them from the institute's 8,600 members in all 50 states and 41 foreign countries. Others are sent by Better Business Bureaus, clothiers and manufacturers who want to test their wares for cleanability before putting them on the market.

With so many new fabrics, blends and stain-producing products coming into use all the time, the institute's main task is to serve as an international clearinghouse for information about their characteristics, pitfalls and cleaning requirements. Through its Trade Relations Office in the New York garment district, the institute also works to eliminate cleaning problems at the source by persuading clothing manufacturers to forego the use of bad dyes, buttons that melt, fabrics too sensitive to heat and glues that dissolve in drycleaning solvent.

"A year or so ago a large number of imitation leather jackets made of plastic began arriving at the laboratory," says W. Clay Hardin, chief analyst at Silver Spring. Regular drycleaning processes made them as stiff as boards, but research showed that they could be wet-cleaned satisfactorily, and the institute promptly passed the word along to its members.

As the foregoing example indicates, today's drycleaner has several tricks up his sleeve for dealing with difficult fabrics and stubborn stains. In addition to immersing the garment in a bath of solvent (either a petroleum distillate or a synthetic fluid such as carbon tetrachloride, trichlorethylene or perchlorethylene), the cleaner has at hand a variety of soaps, detergents, spotting chemicals, bleaches and enzymes to fit both the stain and the fabric.

The institute teaches the art of using them in 12-week courses at its own plant and laboratories. For the layman, the experts say, "the best advice is to sponge a spot with cool water, but don't rub. Then send the garment to a drycleaner as soon as possible and tell him what the stain is."

"The main problem in spot and stain removal is not that of finding a chemical that will remove the stain, but rather the selection of a reagent that will remove the stain without damage to the fabric or dyestuff," says Dorothy Siegert Lyle, who heads the institute's consumer relations department. Her 7½-pound volume on fabrics, which includes pasted-in swatches, has

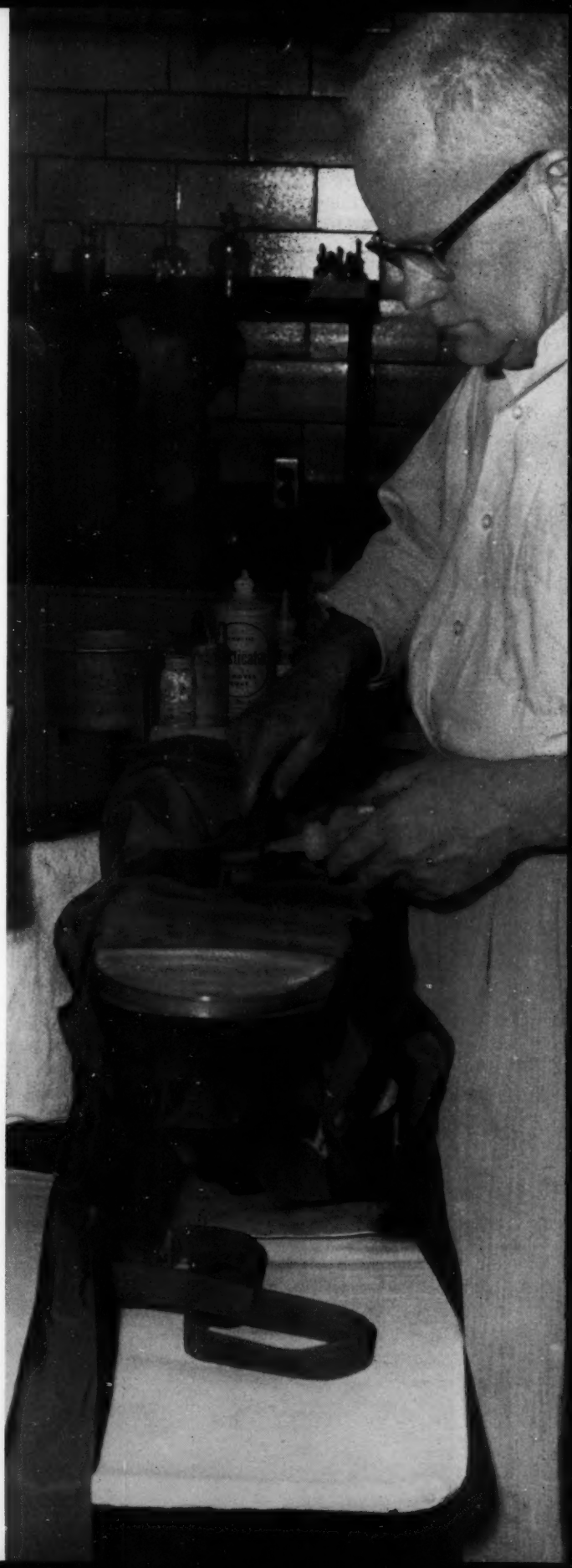
AND STAINS

become the standard work on characteristics, care and cleaning of problem garments.

Such information was not always so easily come by. Until the institute was formed in 1907, drycleaners tended to be secretive chaps who kept their methods and tricks of the trade strictly to themselves. No one knows who discovered the usefulness of solvents other than water for cleaning clothes; one story tells of a can of camphene upset during a lovers' quarrel, another deals with a lamp spilled on a soiled table scarf, and a third attributes the discovery to a French sailor who tumbled into a vat of turpentine.

In any event it is fairly well established that Jolly Belin, a Frenchman, opened the first commercial drycleaning plant in 1845, and the term "French Cleaning" is still used occasionally to describe the process. Drycleaning is believed to have spread to the U. S. in the 1860s, using benzol at first and then the petroleum distillates, kerosene, naphtha and gasoline. Some cleaners also used smelly coal tar derivatives such as benzene or concoctions of their own, including bullock's gall. Garments usually had to be taken apart and the pieces dipped by hand in a vat, brushed, dipped again and then dried in a hot room and sewed back together.

This crude process was hard on clothes, and it was many years before cleaners won much public confidence. Today, however, public acceptance of drycleaning is greater in the United States than in any other country. About 98 per cent of U. S. families use commercial cleaning, half of them two or more times a month.



Making a spot disappear requires expert knowledge of fabrics, stains and the spotter's art—once as secret as the magician's bag of tricks. These experts work for National Institute of Drycleaning.

Magic Men on Spots and Stains

More than 36,400 drycleaning plants are now doing business in this country, employing a total of 172,000 people. That's about one plant for every 5,125 persons, although the ratio is much higher in metropolitan areas employing large numbers of white collar workers. New York State leads with 3,802 plants, with California, Ohio, Michigan and Illinois following in order.

Like other specialized businesses, drycleaners require insurance coverages tailored to fit their particular needs. One such coverage is called bailee insurance, designed to cover loss of customers' goods from fire, windstorms, water damage and other common perils. Some all-risk policies also cover processing damage to individual garments, but these are usually written with a $25 or $50 deductible to avoid small claims. Another coverage often carried is extra expense insurance, covering the cost of having work done at another plant during repairs following a fire.

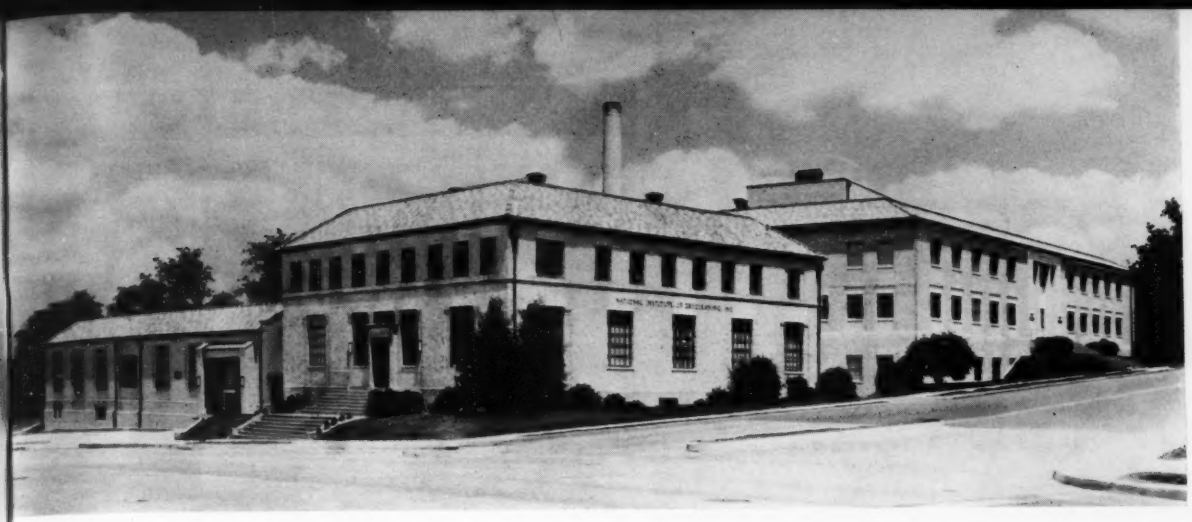
Boiler insurance is required to cover the expensive machinery now used in modern drycleaning plants, some of which are valued at more than $1 million. Nearly all large plants today are equipped with stills to recover and clean the solvent periodically, and some processes involve large-size pressure vessels to handle volatile fluids. These policies cover damage to the equipment itself and liability claims resulting from explosions and fires originating in the equipment.

Drycleaners also have some special requirements for crime and fidelity insurance, especially those handling furs and other very expensive garments. In addition to the usual coverages against burglary, holdups and pilferage, cleaners frequently have problems with embezzlements by routemen, like other businesses that have a large number of persons handling money.

Insurance experts advise that drycleaners carry all of their crime policies, bailee insurance and property coverages with the same company whenever possible, to avoid complications in settling claims. They also recommend that the cleaner and his insurer come to a clear agreement on who is covered under the fidelity policies; otherwise numerous disputes arise over the question of whether routemen are employees or independent contractors. If the latter, they are not covered under some policies.

While drycleaners deal with insurance companies mostly as customers, they also perform valuable services for the insurance industry. Some, such as New York's Renofab Process Corporation, specialize in restoring garments and fine interior furnishings damaged by fire, smoke, water and other contaminants, thereby saving insurers thousands of dollars in claims costs. In Chicago, South End Cleaners and Dyers recently cleaned the entire contents of a tailor shop that had been badly smoked in a fire, on the advice of the owner's insurance man. The cost was about $250—a saving of $750 over full replacement costs, and the customers were happier as well.

An even touchier problem in customer relations turned up at the institute's plant in Silver Spring. The Tennessee State Library and Archives temporarily surrendered its proud collection of Confederate battle flags to have them cleaned and restored to full splendor for all the Yankee visitors now pouring into the Civil War battlegrounds. ⊙



Institute's headquarters in Silver Spring, Maryland, houses a drycleaning plant, research labs (one item: 10,000 moths) and facilities for students from all over the world. Western office is in Glendale, California.

Drycleaning shops, once avoided by insurers because they used highly flammable solvents, now have a good insurance record. Most drycleaners carry bailee policies to cover loss of garments from fire or other perils.

Americans use more drycleaning services than any other nation—nearly $2 billion worth in 1960. In addition to cleaning, most shops also provide mothproofing, waterproofing services and storage facilities for furs, clothes.

← Drycleaner Don Gentis of Muncie, Indiana, is walking proof of his industry's contention that drycleaning preserves clothes. His suit was bought in 1934, has been cleaned "at least 1,000 times"—and worn 3,000 times.

ROBBERY-

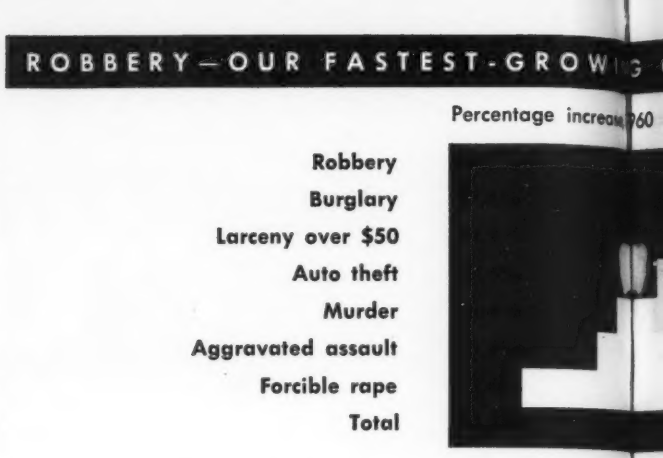
CRIME OF THE YEAR

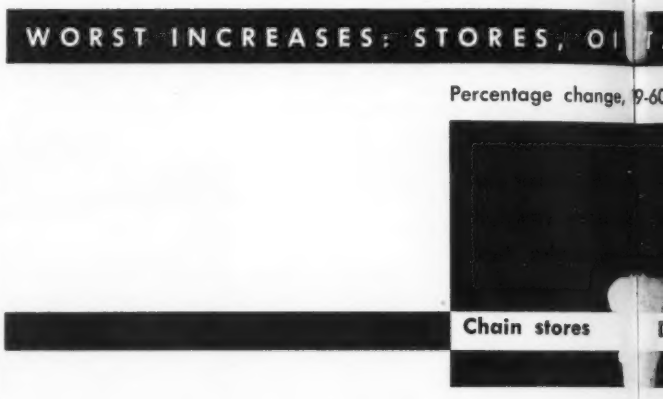
It increased most among major crimes in 1960; stores and oil stations were tempting targets.

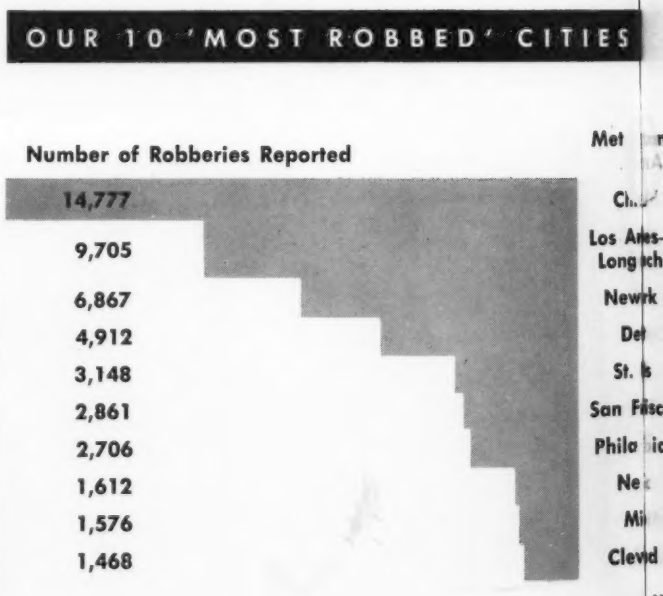
ABOUT 88,970 PERSONS stared down the business end of a pistol or were otherwise put in fear of bodily harm last year by robbers.

This appalling statistic, up 18 per cent from 1959 figures, made robbery the fastest-growing crime of the year in the worst year on record for lawlessness. The accompanying FBI charts reveal facts about the upsurge that should help property owners decide where better protection is needed. One fact worth noting is that the robbery "season" is shifting more and more to October, November and December—making this a critical period in which to review cash-handling procedures and crime insurance coverages.

Another significant fact is that the small retail merchant bears a heavy share of the losses, estimated at more than $22 million annually. More robberies occur in such stores than in all the banks, chain stores, residences, factories and other business enterprises combined. In addition, many holdups listed under the category of highway robbery involved businessmen on their







W G CRIME

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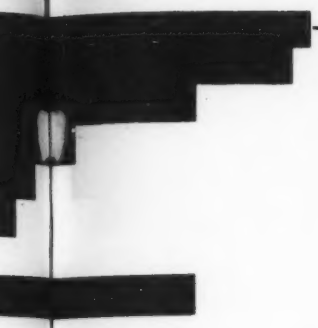

LOCATION OF ROBBERY ATTACKS:

Highways	49%
Commercial houses	27%
Residences	7%
Oil stations	6%
Chain stores	3%
Banks	1%
Other locations	7%

(Based on number of reported offenses)

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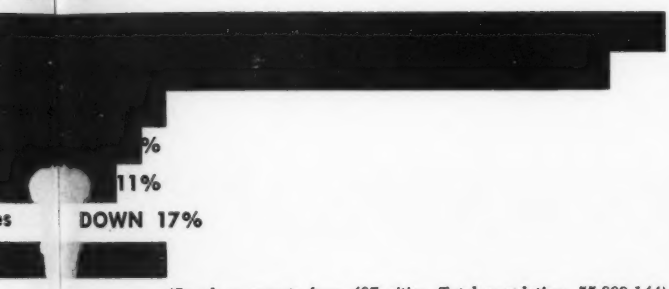

(Based on reports from 407 cities. Total population: 55,809,144)

way to their night depositories, salesmen making their rounds and deliverymen with valuable merchandise or receipts.

Nationwide, a robbery occurred every six minutes, day and night, throughout the year, and the average loss per holdup was $256. Although the big cities continued to record larger increases in robbery than small towns and rural areas, there was a wide variation between individual cities and states. Chicago and suburbs showed the biggest increase in the number of robberies per 100,000 population, from 146.8 to 237.5. Part of the jump can be attributed to a change in police reporting procedures —which suggests that other cities may not be reporting all of their crimes.

Other metropolitan areas with a high incidence of robberies include Los Angeles, Miami, St. Louis, Detroit and San Francisco. New York ranked third in number of robberies reported, but was far down the list in rankings based on population, as were Philadelphia and Boston.

Businessmen cannot tell where or when an armed robber will strike next. But the clear warning contained in these charts is that their chances of escaping an eventual encounter with a bandit are getting worse all the time. ⊙

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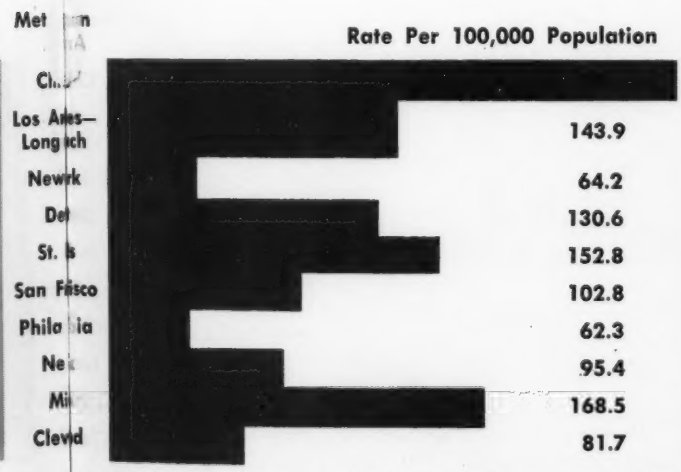
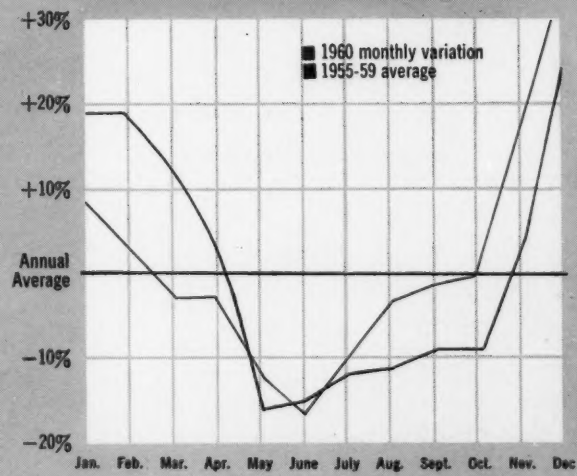


*Includes one or more entire counties containing a major city and its suburbs, defined as a "standard metropolitan statistical area" by the Census Bureau.

WORST SEASON NOW OPENING



Source: FBI Uniform Crime Reports, 1960

National Mutual Insurance Company

Michigan cabin is typical of leisure-time homes in the vast forest and lake country rimming the Great Lakes. Many are insured under homeowners policies.

HOME IS

Journal of Homebuilding, Pease Woodwork Co.

Domes of triangular plywood frames have no internal supports, can be bolted together on a concrete slab or piers from precut kits starting at $1,293.

Maine's rugged beauty has made it one of the boom areas for leisure homes, both summer and winter, particularly with the growing popularity of skiing.

Maine Department of Economic Development

Special ski lodge is one of 21 vacation homes designed for specific uses by Potlatch Forests, Inc., Lewiston, Idaho. Firm supplies complete plans and material lists.

Union Mutual Insurance Company

Note the private fire hydrant in front of this well-kept home at Marion, Massachusetts, used as a summer residence and for weekend visits and parties throughout the year.

S NOW TWO HOUSES

American Wood Preservers Institute

Vacation home constructed with pressure-treated wooden poles is one of many now going up in the bayou country of Louisiana, costs about $11,750.

Summer estates in this class usually receive excellent care, but can be inviting targets for burglars during months when owners are absent.

Pawtucket Mutual Insurance Company

Americans own nearly 2 million leisure-time cabins, cottages and ski lodges.

IN THE 1920s, the slogan was "two chickens in every pot, and a car in every garage." Now it's being recast to read, "two homes in every family—and enough time off to enjoy them."

Nearly two million American families already own second homes, and their tribe is fast increasing. By 1970, some housing authorities estimate, one out of five new dwellings will be mountain cabins, seashore cottages or woodsy retreats whose owners live elsewhere most of the year. New York already boasts some 225,000 of these seasonal dwellings, followed by Michigan's 153,000, New Jersey's 113,000, Texas' 82,000, Wisconsin's 81,000 and Massachusetts' 80,000.

No longer are these leisure-time homes confined to palatial estates of the wealthy and the tar paper shacks of once-a-year fishing and hunting enthusiasts. Today's big boom is in snug little houses that can be used year-round for weekend jaunts and perhaps expanded into retirement homes when the time comes. Many of them are being built on the shores of new lakes created by power dams and flood control pro-

jects, or in areas made easily accessible by new superhighways.

Reasons for the boom are not hard to find. With one family out of eight now earning more than $10,000 a year, more people than ever can afford second homes. The trend toward shorter working hours has given them the leisure to enjoy them.

Finally, builders have whetted the interest of these affluent prospects by designing an enticing variety of homes to fit every climate, taste and pocketbook—from a two-room, do-it-yourself cabin costing less than $1,000 to showplace dwellings in the $25,000 class. Items:

¶Bush Homes, Inc., Huntington Station, Long Island, markets a 20′-by-20′ Fire Island home for $1,600 F.O.B., sold from Maine to Virginia.

¶Potlatch Forests, Inc., Lewiston, Idaho, sells plans and materials for a special ski lodge with three bedrooms, ski room and second-floor entrance for use in deep snow.

¶Harnischfeger Homes, Inc., Port Washington, Wisconsin, sells a 16′-by-32′ cottage with an additional 8-foot porch, precut and ready to be assembled with only 45 man-hours of labor. Price is $2,754 F.O.B. Complete kitchen is $615 extra.

¶A Florida dealer is offering several four- and five-room aluminum homes, all costing less than $5,600, which can be erected in five days by "one man handy with tools and one who isn't."

In addition, the Western Pine Association, Douglas Fir Plywood Association and other building materials groups now offer a variety of plans for vacation homes that can be put together from precut components or built by local contractors.

For those who build wisely, these homes-away-from-home can be things of beauty and good investments forever. Nevertheless, several pitfalls lurk for the unwary.

Insurance companies queried by the JOURNAL consider homes built on low-lying shore lines to be bad insurance risks because of their vulnerability to damage by high water. Insurers also tend to shy away from homes subject to serious danger in forest fires and from poorly constructed dwellings in general. Too often the wiring is bad, the cooking equipment is hazardous, and the roof is ready to rip off in the first heavy windstorm.

Seasonal homes also are subject to vandalism and burglary during the owners' long absences, and to losses compounded by neglect. Thus if a window breaks or a tree falls on the roof, the house and furnishings can suffer from long exposure before anyone finds out about it.

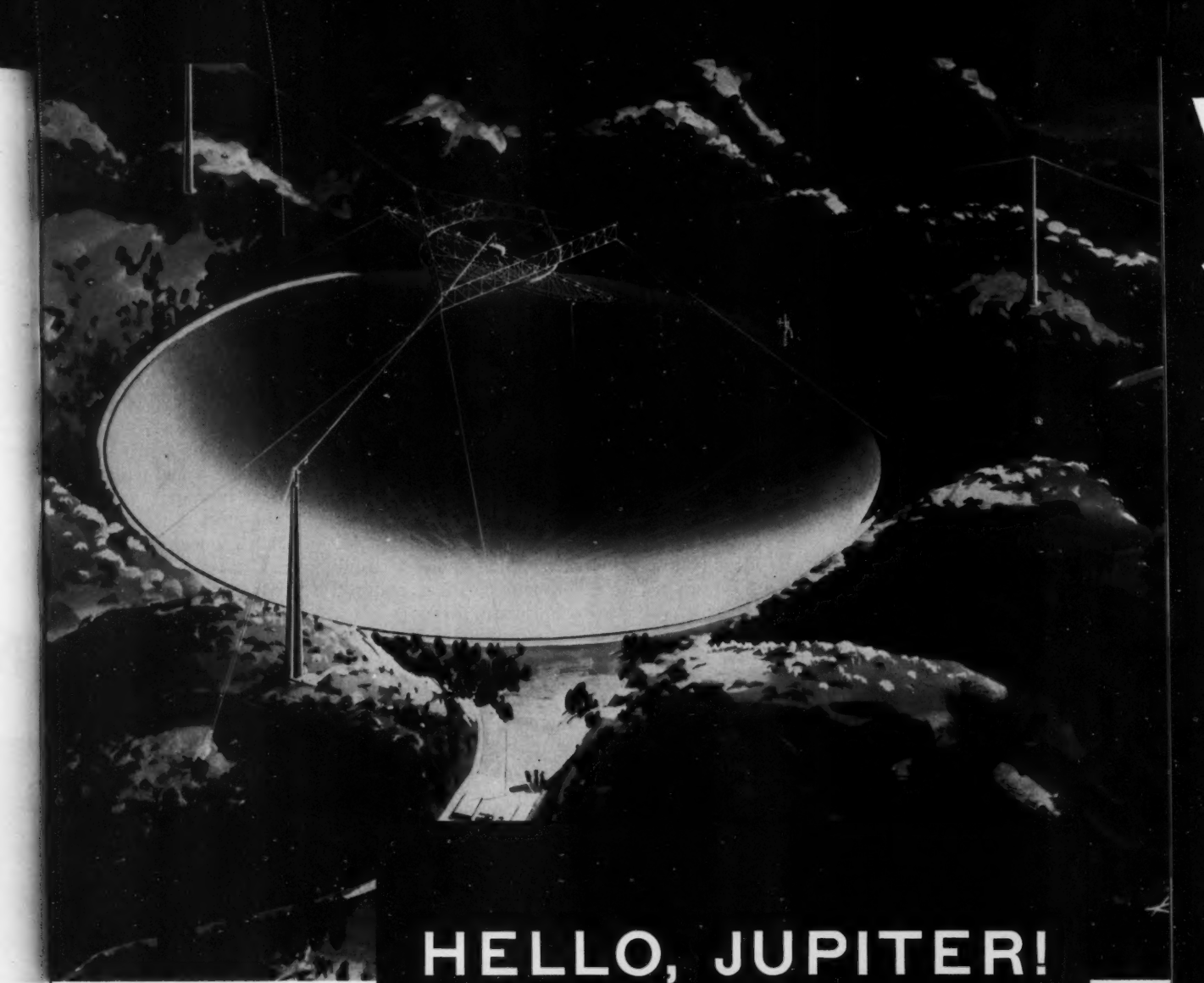
Despite these notes of caution, most owners of seasonal homes have no difficulty obtaining insurance if the houses are well-constructed and located with due regard for local hazards.

"Our company has been insuring seasonal homes for many years, and the experience has been excellent," says A. W. Benson, president of Pawtucket Mutual Insurance Company, Pawtucket, Rhode Island. Similar comments came from L. C. Crockett of Utica Mutual Insurance Company, Utica, New York, who noted that losses involving seasonal homes in that state are consistently less frequent than for regular homes. This apparently holds true for other states as well. Since 1955, mutual insurers as a group have reported an average country-wide loss ratio of 35 per cent for year-round homes and only 26 per cent for seasonal dwellings.

If this good record continues, purchasers of these cozy retreats can rest assured that insurance protection is another home comfort available in double measure. ⊙

Michigan State Tourist Council

Today's broad homeowners insurance policies are made to order for all the risks inherent in fishing, boating, water skiing and other fun-time activities associated with use of vacation homes. They include full protection against liability claims as well as damage to property.



Cornell University News Bureau

Now nearing completion, this gigantic radio-radar telescope has an "ear" 1,000 feet wide and a transmitter capable of bouncing signals off distant planets. Pylons supporting the web-like sending apparatus are 265 to 390 feet high and 36 feet in diameter at the bottom.

HELLO, JUPITER!

IN A MOUNTAIN CRATER near Arecibo, Puerto Rico, a spidery mechanism hovers on a web of steel—and listens. Its sensitive ear picks up the faint vibrations of an elusive prey: swarms of cosmic particles, caught in the earth's magnetic field like moths held captive by a candle.

This strange mechanical cobweb is the sending and receiving apparatus of the world's largest radio-radar telescope, a 2.5-million-watt giant with a reflector dish measuring 1,000 feet

from rim to rim. Known as the Department of Defense Ionospheric Research Facility, it is now almost completed and will be in full operation within a few months.

The facility is the brain child of electrical engineer William E. Gordon, project officer of Cornell University and a prominent member of the university's Center for Radiophysics and Space Research. Gordon helped formulate the theories that made the Arecibo unit possible, headed the team that designed it, chose the site, and is now in Puerto Rico supervising its actual construction.

One of his most ingenious ideas was to build the massive receiver dish in a bowl-shaped hole, thereby eliminating the need for expensive support structures to keep it from flapping in the wind or deforming with changes in temperature. He found the site he wanted near Arecibo—a porous limestone crater, located near the equator in a spot relatively free from radio interference. The Advanced Research Projects Agency agreed to put up the $6.5 million cost, and the Army Corps of Engineers built a two-mile-long access road around the construction site.

Another participant is mutual insurance. Cornell University, as the prime contractor, carries coverages with Kemper Insurance companies of Chicago to protect itself against liability for construction mishaps, auto accidents and injuries to staffers at work on the project. Employers Mutuals of Wausau, Wisconsin, also are taking part as the insurer of Caribbean-Wikstrom, Inc., the subcontractor that built three massive towers to support the radar apparatus.

Chief purpose of the powerful new observatory at Arecibo is to conduct the most thorough study yet attempted of the earth's ionosphere—a band of electrically-charged gases hovering about 35 miles above the earth and extending outward for perhaps 220 miles. Although the ionosphere has long been used as a mirror for bouncing long-range radio messages around the curvature of the earth, scientists have only recently begun to understand its often erratic behavior, including its role in freakish transmissions of television broadcasts halfway around

the world and the electromagnetic storms that disturb its flow and black out radio communications. With manned satellites already invading the ionosphere, and with plans for deeper space probes in the future, the demand for more exact knowledge has become even more pressing.

"If you're going to do that kind of tricky thing, you need to know as much as possible about what is going on out there," says Professor Henry G. Booker, associate director of the Cornell center. Together with Director Thomas Gold, a former fellow faculty member at Cambridge, he also hopes to investigate distant parts of the solar system by means of powerful radar signals.

One day soon, if all goes well, they will hurl these signals 400 million miles into the sky and bounce them off Jupiter, largest of the planets and the object of intense scientific curiosity. If the echo returns, they expect to learn valuable information about the planet's surface, now thought to be frozen solid with an ice layer 13,000 miles deep. If no reply comes, science will at least know that Jupiter is shrouded in thick atmosphere that absorbs radio waves. Similar attempts will be made to study Mars, Venus, Mercury, the sun and moon.

When Arecibo is not busy with these high-priority projects—study of the ionosphere and planets—it may be used to lend a hand with the most intriguing search of all: listening for intelligent messages beamed down the vast slope of space by beings on some distant planet. Professors Giuseppe Cocconi and Philip Morrison, the latter also a member of the Cornell research group, believe that intelligent life almost certainly exists somewhere in the galactic vastness of the Milky Way, on a planet much like our own. It is quite possible, they reason, that among the 100 million or so planets favorably located to support life, there may exist societies older and more technically advanced than our own.

"To the beings of such a society, our sun must appear as a likely site for the evolution of a new society," they wrote in the British publication, *Nature*. "We shall assume that long ago they established a channel of communication that would one day become known to us. . . ."

Cocconi and Morrison then proceeded to deduce the most promising wave length for interstellar communication, and suggested that radio telescopes tune in systematically in hope that one day man will hear the faint call of humanity echoing across the void.

The search for intelligent voices not of this world already has begun at Green Bank observatory in West Virginia, and will be supplemented as time permits at Arecibo. While these efforts may seem farfetched to some, perhaps even frightening, they are regarded by Cornell's brilliant stargazers as a legitimate part of man's unrelenting quest for knowledge—a quest that often turns up unexpected discoveries of enormous practical significance.

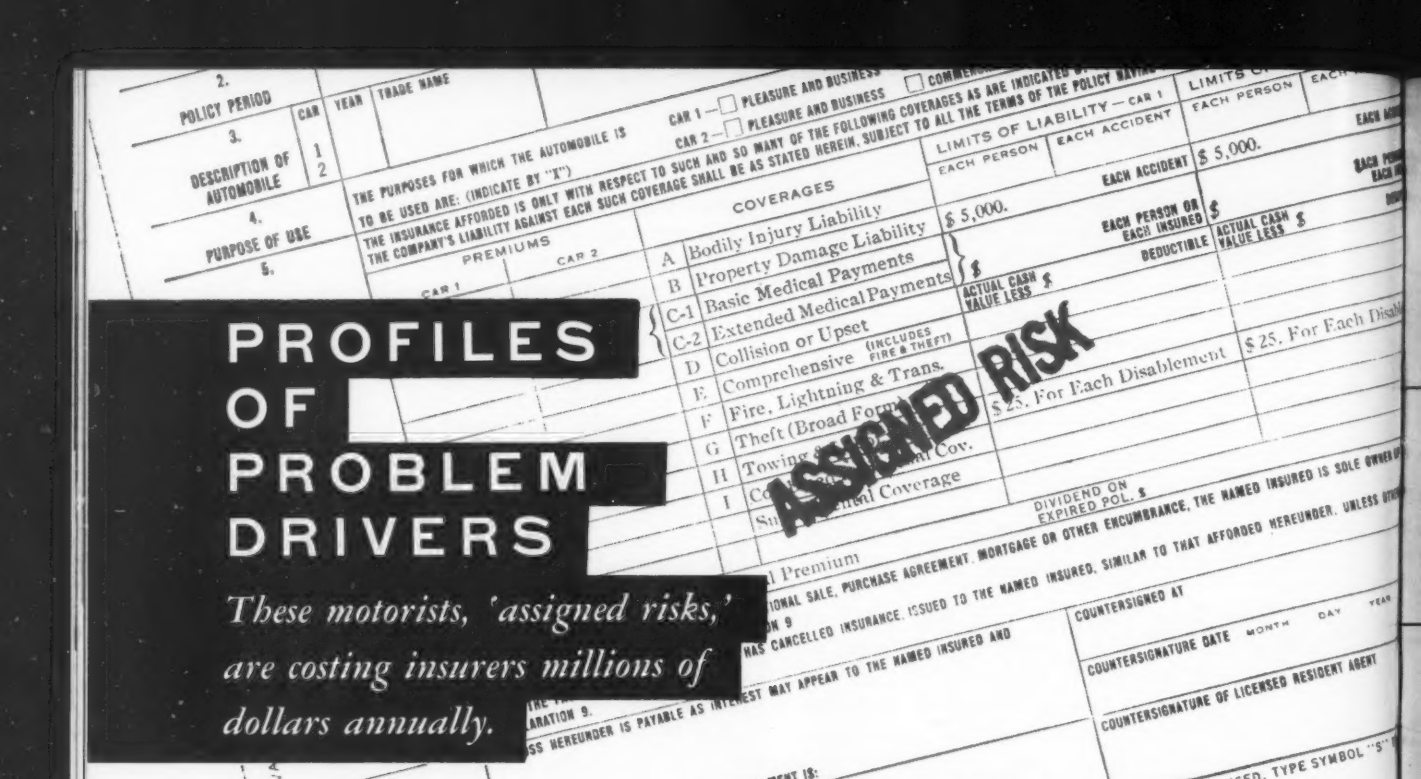
"Scientists have to admit that they do not know how to bring about the major advances of science," says Professor Thomas Gold. "The best we can do at any stage is to observe and interpret all that can be observed and interpreted. Out of that, on some occasion, in an unpredictable way, may come a major step in the understanding of nature." ⊙

William E. Gordon, professor of electrical engineering at Cornell, provided both the theoretical discoveries and the engineering designs that made the Arecibo observatory possible. His innovations drastically reduced the cost of building large reflectors, making even larger space telescopes feasible. Gordon will operate the powerful new research tool as a member of Cornell's newly-formed Center for Radiophysics and Space Research.

Thomas Gold, director of Cornell's space research center, is internationally known for his bold theories concerning the origin and behavior of the universe, including an explanation of how sunspots black out radio communications. He also holds that new galaxies are constantly being created in space as the old ones fly away from each other at fantastic speed. Measurements taken at Arecibo may help prove or disprove the theory.

Henry G. Booker, one of the world's foremost authorities on electromagnetism and radio wave propagation, was decorated by the U. S. government for his contributions to wartime radar development. He and Gordon also contributed much of the basic research used in developing our DEW Line early warning system and other defense radar installations. More recently, Booker helped plan U. S. participation in the International Geophysical Year.

Excavation of the big pit took several months of hazardous work with bulldozers and cranes, plus concrete form work in construction of the pylon towers. Mutual insurers underwrote coverages on workmen, autos, liability risks.



PROFILES OF PROBLEM DRIVERS

These motorists, 'assigned risks,' are costing insurers millions of dollars annually.

EVERY MOTORIST WHO LANDS in an assigned risk plan knows what that means, but the plans themselves have become the most widely misunderstood service of the insurance industry. Now operating in 49 states, Canadian provinces and Puerto Rico, assigned risk plans engender the suspicion of the insuring public. They cause disputes between companies and producers. And they pile up major losses for automobile insurance carriers who must accept proportionate shares of assigned risk business.

New Hampshire insurers voluntarily formed the first assigned risk plan in 1938 to provide auto liability coverage for drivers entitled to insurance but who could not obtain it on the voluntary market. Assigned risk plans distribute these risks equitably among the carriers, precluding excessive concentration of such risks in any one company. Representative governing committees establish application procedures and administer distribution of assignments. With the approval of state insurance commissioners, the committees determine surcharges to manual rates for those assigned risks with recent records of traffic violations, accident involvement or conviction of certain non - motor - vehicle offenses.

Many of today's assigned risk drivers have been forced into the plan by a combination of circumstances including generally inadequate auto liability insurance rates, inflation and rising accident costs. Some 2,100,000 motorists are now placed in assigned risk plans because they are drivers who, in large numbers, produce heavy underwriting losses.

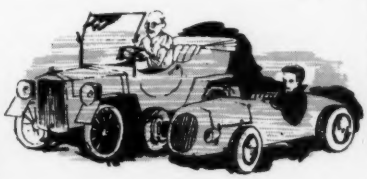
Though the 2 million assigned risk policies represent insurance on only 3 per cent of the nation's 73 million registered vehicles, assigned risk business in 1959 cost auto insurance underwriters $60 million more than the $193 million premium volume of the plans. Assigned risk direct losses for the four - year period from 1954-58 were $1.22 for each $1 in bodily injury premiums, and $.83 on each dollar of property damage premium. In many states losses and expenses involved in handling assigned risk business are running between $1.50 and $2 for every $1 in premiums.

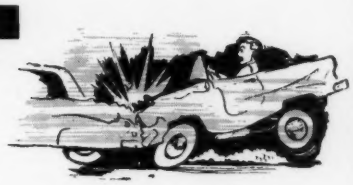
These losses, which must be charged to good motorists in the form of higher rates, resulted in spite of schedules of surcharges for assigned risks. The surcharges range from 10 to 100 per cent above manual rates determined by national bureaus. Surcharges based on the recent accident and violation record of each assigned risk were adopted to cover anticipated losses, but the added premiums have still been deficient. One reason for the inadequacy of the surcharge system has been the removal of surcharges in some states for "clean risks," those who pay only a nominal extra charge for getting insurance through assigned risk plans.

"Clean risks" are frequently young or aged

WHO ARE THE ASSIGNED RISKS?

	NUMBER OF DRIVERS	PERCENTAGE OF TOTAL
AGE		
Under 20	52	
20-24	271	20.2
25-34	340	25.3
35-45	320	23.8
Over 45	359	26.8
NUMBER OF ACCIDENTS BY ASSIGNED RISK DRIVERS		
No accidents	356	26.6
1	418	31.2
2	262	19.5
3	148	11.0
4	67	4.9
5	41	3.0
6	21	1.6
More than 6	30	2.2
TYPE OF CONVICTIONS		
Drunk	1193	16.2
Reckless driving	4511	60.3
Improper muffler	281	3.5
Larceny	25	0.3
Assault	37	0.5
Other	1368	18.6
Hit and run	46	0.6
NUMBER OF CONVICTIONS		
No convictions	92	6.8
1	97	7.2
2	151	11.1
3	163	12.1
4	169	12.5
5	159	11.8
6	118	8.7
7	93	6.9
8	83	6.1
9	56	4.1
10	35	2.6
More than 10	136	10.1





A composite picture of some of the more than 2 million drivers insured under assigned risk plans has been provided by results of a survey of nine automobile liability insurance companies made by the Industry Committee on Automobile Assigned Risk Plans. Report forms on 1,342 assigned risk drivers show that they were involved in 2,250 accidents and had 7,461 convictions, an average of 1.7 accidents and 5 convictions each.

Source: Industry Committee on Automobile Assigned Risk Plans

drivers with good records who resent being tagged as assigned risks. But loss statistics prove that these drivers as a group sometimes produce losses at a rate even greater than drivers surcharged for accident or conviction records. "Clean risks" among assigned drivers in New York in 1958 developed a loss ratio of $1.97 for every $1 in premiums, but surcharged risks' ratio was only $1.54 per premium dollar. Part of this variation is caused by the surcharge income, but the heavy loss ratio of "clean risks" is evident. Another study by members of the Mutual Insurance Rating Bureau shows a similar pattern: a 1.22 ratio for "clean risks," a 1.18 ratio for other assigned risks.

Insurers' Losses Are Markedly Higher

Not only do insurers incur substantial losses by carrying assigned risks, but their experience has worsened markedly in recent years. Assigned risk business in the period for 1938-51 showed an over-all loss ratio of .77, sufficiently low for mutual companies to break approximately even. But by 1957 this ratio had climbed to 1.31 and since then has gone to about 1.40 nationwide and as high as 1.60 in such states as New York.

Rapid increases in losses caused by assigned risks have been spurred by sharp upturns in the populations of the plans. More than 10 per cent of New York state motorists are insured through ARP, but the percentage is lower in other states despite recent increases. Massachusetts, with 2.6 million drivers, has an assigned risk population of 68,892. Illinois, with 4.6 million motorists, has 44,281 assigned risks.

Number of Assigned-Risk Drivers Doubled

Over-all, the nation's assigned risk population has doubled during the past three years, an increase that reflects rapidly rising accident loss costs and inadequate rate levels that have forced underwriters to be more selective in writing marginal risks voluntarily. In at least one state, Florida, the assigned risk plan has grown since producers were allowed 15 per cent commission on private passenger assigned risk business. This percentage encourages Florida insurance agents to place risks in ARP which yields a higher commission in some cases than the agent could reap from placing voluntary business. Agents are usually permitted 10 per cent commission in private passenger assigned risks and 5 per cent on commercial risks. But to prevent assignments from becoming lucrative for the agent, several assigned risk plans bar commission on the surcharge portion of an assigned risk applicant's premium.

Two factors presently relieving the assigned risk problem are the operation of companies specializing in substandard risks and the use of special credits that encourage companies to provide coverage voluntarily. Companies underwriting substandard risks charge substantially higher premiums, but they offer higher liability limits than the plans which generally provide only the limits fixed by law.

Credits for writing certain classes of risks, including drivers under 25, reduce a company's assigned risk quota which may be determined in one of two ways. Risks are distributed in some states on a "car-year-exposure" basis, which many call the true assignment ratio. Under this method, assignments are divided up according to the number and duration of risks carried by insurers licensed to write auto insurance in a given state. It averts the problem of rate differences among companies presented by the "premium volume" method of distributing assignments, simply dividing total premiums by companies to get an assignment ratio.

More Adequate Rates Would Ease Problem

The National Industry Committee on Automobile Assigned Risk Plans, set up in 1947 as a clearinghouse on assigned risk problems, recently offered a set of proposals aimed at solving the assigned risk muddle. It advocates separating nonfleet passenger cars from other assigned risks and establishing uniform rates for such vehicles. The committee also endorses the "car-year-exposure" method of distributing risks; a system of graded surcharges for accident and conviction records; and a credit procedure for companies that voluntarily accept drivers under age 25.

Ultimate solution of the assigned risk problem depends on the adoption of more nearly adequate rates for all policyholders so that fewer risks will be assigned. Equally important is prompt action by state licensing authorities to ban those accident-prone and incompetent motorists who generate the assigned risk problem by causing a disproportionate share of death, suffering and property damage on our highways. ⊙

CAREERS IN GALLANTRY

Firemen, training in this new Chicago academy, have the world's finest preparatory schooling.

PIERCING THE COOL, early-morning autumn air around a courtyard on Chicago's Near West Side comes the sharp command of "Hup, two, three, four."

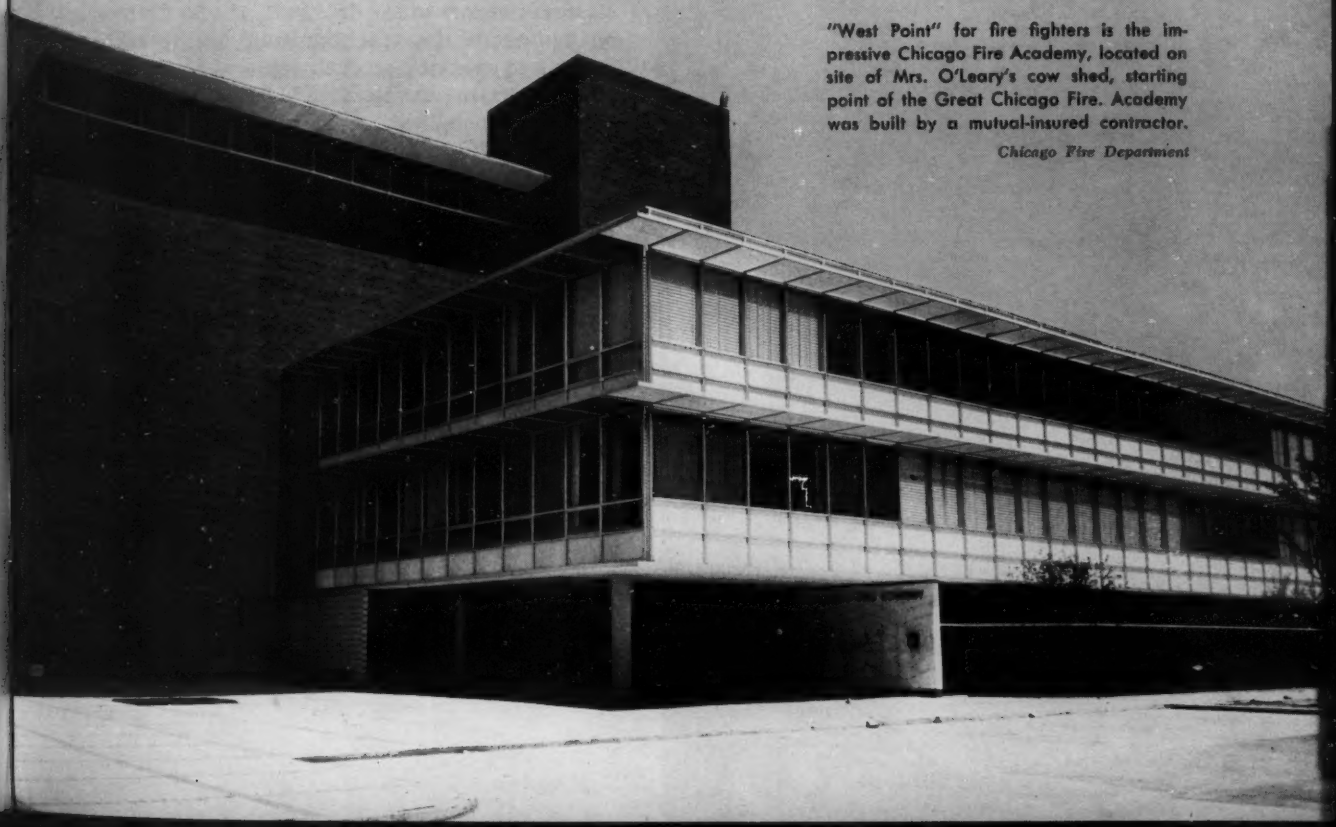
Passers-by, who can only hear the activities inside the enclosed area, might mistake the familiar sounds as coming from an Army drill sergeant putting his men through their paces.

Actually the booming voice belongs to a Chicago fireman, and the marching feet to 200 candidates for membership in the city's 4,500-man fire department. They're being trained in what is considered to be the world's most comprehensive fire academy.

Built on the square block which formerly housed Mrs. Catherine O'Leary and her careless cow—infamous for their part in the Great Chicago Fire 90 years ago—the city's new academy is a $2 million, 62,500 square-foot complex designed to turn out thousands of well-trained fire fighters and to keep them that way through semiannual refresher courses.

Consisting of three buildings constructed of steel, stone and glass, the academy is a "West Point" for smoke eaters. The contractor, John C. Long, Inc., is a mutual insurance policyholder carrying public liability, property damage and workmen's compensation coverages for the academy project with Michigan Mutual Liability Company of Detroit.

Largest of the buildings is a five-story, red glass-brick drill hall, 62 by 100 feet, with various



"West Point" for fire fighters is the impressive Chicago Fire Academy, located on site of Mrs. O'Leary's cow shed, starting point of the Great Chicago Fire. Academy was built by a mutual-insured contractor.

Chicago Fire Department

types of fire escapes, window balconies, and gas, smoke and sprinkler rooms. All types of window frames are built into a fourth-floor balcony to give the recruits experience in handling each kind. Any piece of the fire department's equipment, including hook-and-ladder trucks and snorkels, can be operated inside the huge hall, with room to spare.

Connecting with the drill hall is a modern three-story office and classroom building which houses fire department administrative personnel, the Fire Prevention Bureau, Arson and Fire Investigation Bureau, Supervisor of Ambulances, a fire museum and library. The third building is a two-story firehouse which headquarters an engine company and a snorkel company.

Together these three structures comprise the ultimate in training facilities. But the academy's fast-growing reputation as the world's finest springboard for future firemen is due primarily to the excellent training program within the structures and to the high caliber of men serving as instructors.

A tour through the academy during busy training hours impresses visitors with the seriousness of these men, both the candidates and the instructors, in mastering the business of fighting fires. An attentive class takes notes as a representative of the Illinois Bell Telephone Company lectures on the workings of a new fire alarm system. The terminology used sounds as if it's straight out of a class at Massachusetts Institute of Technology.

In the drill hall a group of trainees kneel in a circle around an instructor as he shows them how to hook a high-pressure hose to a hydrant. Several feet away another instructor explains the operation of automatic sprinkler systems in a room resembling a plumbers' parts depot. Other clusters of men are scaling the brick interior walls with pompier ladders.

Each 60-day period throughout the year a new class of between 150 and 200 recruits begins training. Starting at 8 a.m. each weekday, the men arrive for roll call, calisthenics and close order drill. This goes on for two hours. Stress on physical fitness, says Chief Tom Hoff, academy drill master, puts and keeps the men in top shape. A fireman's life, adds Hoff, is anything but soft.

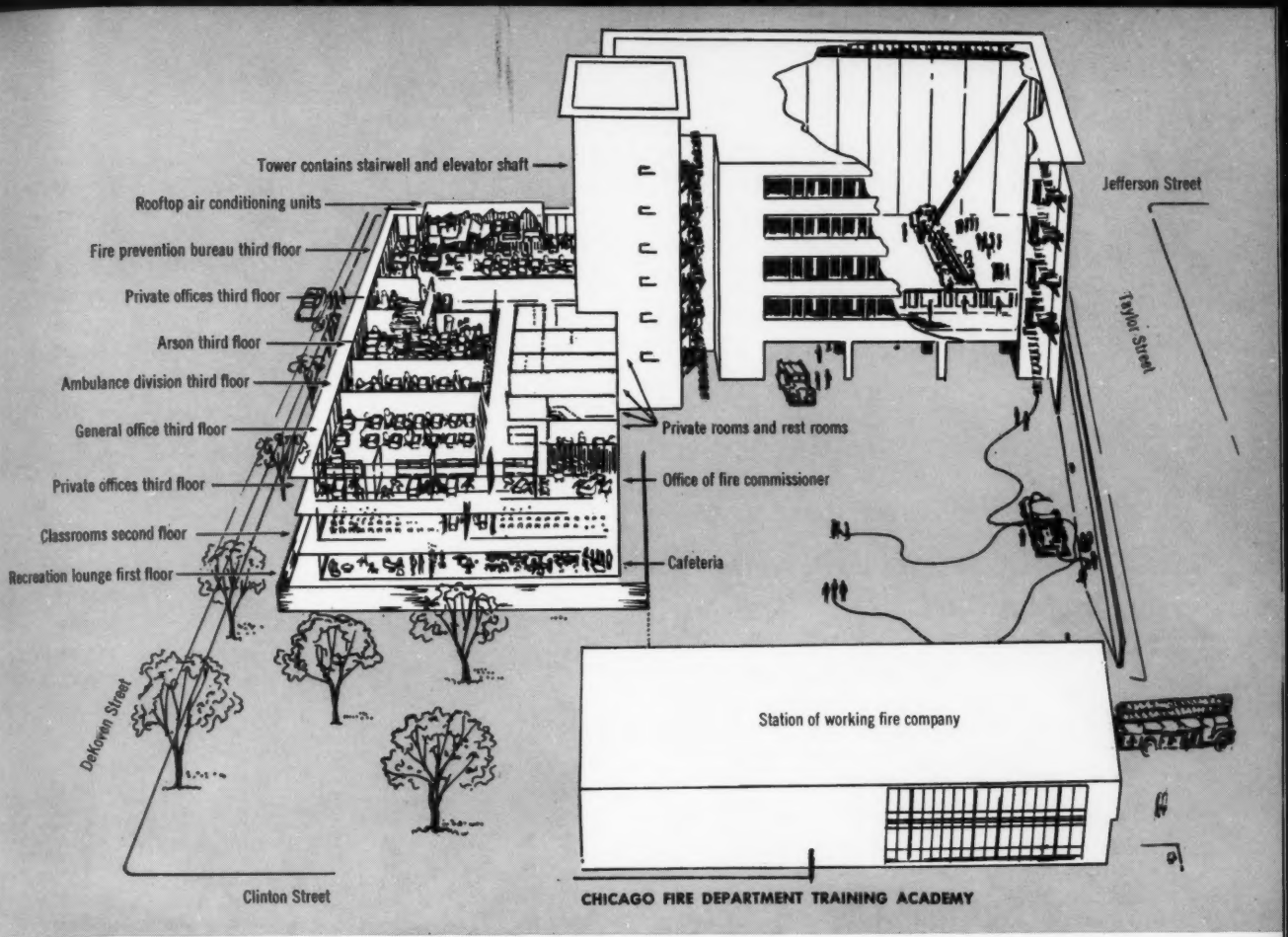
At 10 a.m. the candidates move inside for classes or report to the drill hall. The 20 firemen on the academy's teaching staff are veterans capable of speaking on such subjects as "Chemical Fire Extinguishment" and "Radio Communications, Including Auxiliary Systems."

After lunch in the academy's modern cafeteria the men return to classes until 4:30 p.m., at which time they leave carrying a liberal supply of homework. Most of the candidates, after two months of this rigid routine, are assigned to fire companies where they serve a six-month probationary period. Slower students are either discouraged from becoming firemen or given additional training at the academy.

Once on the job, Chicago firemen must continue their schooling. Every member of the department is required to return to the academy

Chicago Sun-Times

Book cramming and classroom lectures are just part of the training program at the new academy. Manning life nets is one of many drill hall lessons trainees receive. Here instructor makes the plunge.



Fire department officials from as far away as Germany and Denmark have come to see the academy, considered it to be the world's most comprehensive training ground for firemen.

twice a year for refresher courses in fire-fighting techniques. Four six-man companies arrive with their equipment each day. While the equipment is being inspected for performance and safety, the men are being briefed on occupational changes and new equipment.

In addition to training firemen, the academy's instructors also hold classes for police trainees and members of the U. S. Coast Guard stationed in the Chicago area. They familiarize police with the operations of the fire department and what is expected of patrolmen when they are assigned to fires. Coast guardsmen attend classes pertaining to dock and ship fires, atomic energy and sprinkler systems.

This mutual effort between the various forces has prevented much delay and confusion at Chicago fires. Once the fire alarm sounds men have little time to discuss and explain their duties. For instance, Chicago's Squad 3, the world's busiest with more than 100 calls a week, can be roaring out of its South Side firehouse just a few seconds after the alarm sounds. Last year it was beckoned by the bell 5,226 times.

This is a far cry from the early 1800s when members of the volunteer fire departments supplied their own buckets and linen salvage bags, pulled such equipment as they had by hand and were proudest when they outraced the members of other brigades in arriving first at the blaze.

Fire departments today vary from city to city as to training, equipment and operational procedures. But the fire fighters, because of the superior training they receive at schools such as the Chicago Fire Academy, are professionals in an occupation where saving lives and property are everyday occurrences.

Chicago's academy, said Fire Commissioner Robert J. Quinn, serves as a monument to the Great Chicago Fire. The training activities inside serve as a safeguard that such a holocaust shall never happen again. ⊙

ADVENTURES IN BUSINESS

Young Americans, in Junior Achievement companies, are exploring free enterprise.

Junior Achievement of Chicago

JUNIOR ACHIEVEMENT

YOUNG AMERICA, 80,000 strong, will embark this month to show the world what it can do with our U. S. system of free enterprise.

These 80,000 or more young people—all teen-agers representing 300 communities from coast to coast—will be enrolled voluntarily in the 1961-62 fiscal year Junior Achievement program to organize, finance and run businesses of their own.

This is one of the unique long-standing bulwarks to the American way of life, for the JA program is entering its 36th year. Since its inception in 1926 it has been a practical school of experience for more than a million young men and women, many of whom have become the new generation of leaders in business and industry.

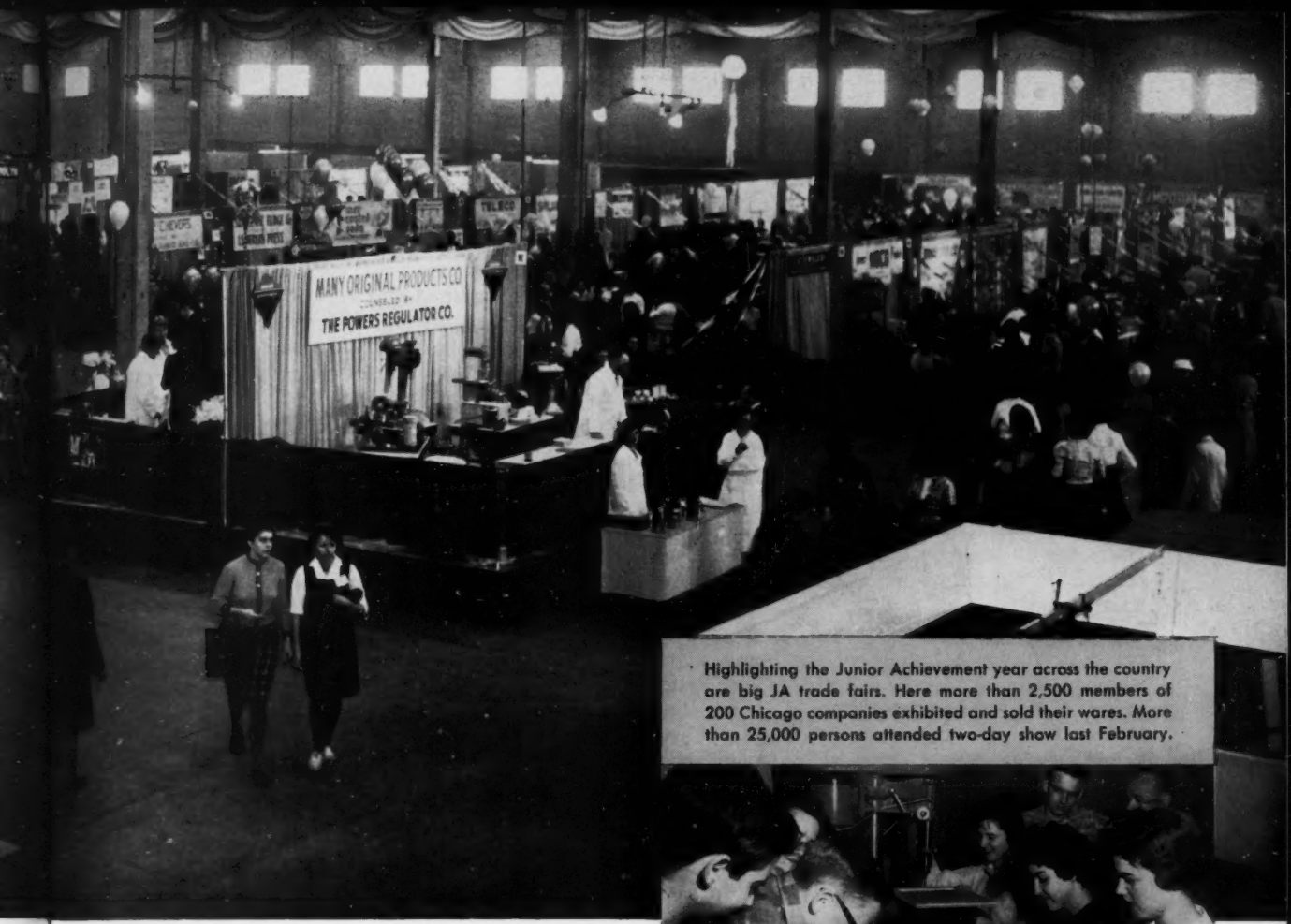
From now until the end of the school year Junior Achievers, 15 through 19 years of age, will have the responsibility for success or failure of their respective corporations. More than 70 per cent of the JA companies in the past have prospered, showing a profit. About 20 per cent break even and 10 per cent fail. But win, lose or draw, all participants have gained a new experience and had a good time in the process.

Here, in brief, is how Junior Achievement works. During the next few weeks the young entrepreneurs in each group will decide upon a company name, select a product, elect officers and raise operating capital by selling stocks at 50 cents a share. About 400,000 stockholders will finance JA companies this year, most of them realizing a profit from their investments.

Once enough stock has been sold, the young businessmen and women will purchase raw materials for their product. They must also pay rent for company space at the JA centers and lease equipment such as drill presses, saws, sanders and other power tools. Wages are established for company members, usually about 25 cents an hour.

JA companies produce and market everything from automobiles to salad dressings. They occupy individual rooms in the centers for their assembly lines, financial records and for conducting business meetings.

As soon as the first completed product rolls off the production line the entire company staff, from president to drill press operator, take on an additional title: "Salesman." Relatives are favorite targets for the young sales force, but most companies advertise and go from door-to-door in their marketing efforts. Commissions and bonuses serve as incentives.



Highlighting the Junior Achievement year across the country are big JA trade fairs. Here more than 2,500 members of 200 Chicago companies exhibited and sold their wares. More than 25,000 persons attended two-day show last February.

Production line of successful TEECCO Products, sponsored by Texas Employers' Insurance Association, Dallas. Teens manufactured "Keynoter Boards," bulletin boards for homes. Texas Employers' has been a long-time JA counseling firm.

Junior Achievement salesman completes the sale of JA-made lamp to DeForest W. Abel, president of Automobile Mutual Insurance Company of America, Providence. Witnessing the transaction are Junior Achievement advisers from AMICA.

Just as the adult business world has its share of failures, Junior Achievement companies also make ruinous errors. One New York company failed to properly survey its market and placed its capital in a special raw material that couldn't be adapted for another use. When their product failed, the company ended the year deeply in the red. The company president, his face matching the color of his firm's financial standing, told the stockholders: "We goofed, but we learned a lesson we'll never forget."

From the annals of Junior Achievement have come many heroic episodes, one of the most noteworthy involving a Pittsburgh JA company operating during World War II. This company developed an incubator, at a time when they were extremely scarce, that was credited with saving the lives of two dozen Pittsburgh babies. The lifesaving apparatus was built primarily from orange crates.

It's not certain whether this company showed

a financial profit that May, the month when all JA companies are liquidated, but when dividend time rolled around stockholders were assured that the incubator's 24 future Junior Achievers were doing fine.

Behind the scenes of Junior Achievement's success are the sponsoring companies and adult advisers. Nearly 30,000 business firms, from large corporations to firms hardly any larger than the companies they counsel, contribute to the support of JA. They furnish three adults, each an expert in the particular business area of sales, production or accountancy. These advisers are on hand to offer guidance to the JA companies, but only when it is requested by the youngsters.

Mutual insurance companies have participated in Junior Achievement for many years. Kemper Insurance has been active in sponsoring groups in the East and the Midwest. Automobile Mutual Insurance Company of America, Providence, Rhode Island, and Texas Employers' Insurance Association of Dallas, Texas, are two other strong boosters of Junior Achievement.

Through support given by companies such as these, JA has been able to grow steadily through the years. The program got its start in 1926 when the late Horace A. Moses, chairman of the Strathmore Paper Company of Springfield, Massachusetts, realized that most high school graduates had little or no working knowledge of this country's business system.

Moses decided that youngsters should have the opportunity to learn, firsthand, the workings of a free enterprise along with their formal education. He reasoned that such a program would also help to eliminate a still common complaint among young people fresh out of school: "How do we get experience to get a job when we need a job to get experience?"

The idea gained immediate popularity, but until 1942 it was strictly a New England venture. That year a national JA headquarters was established in New York City, and the program started to spread. Today the biggest problem confronting Junior Achievement is that of keeping up with the demand. More than half of the youngsters requesting membership in JA are refused because of a space shortage.

"We cannot afford to disappoint these youngsters," said S. Bayard Colgate, director of the Colgate-Palmolive Company and an officer of Junior Achievement, Incorporated. "They must not be allowed to miss the feeling of pride that comes with personal achievement. They must be prepared to understand and defend our business system."

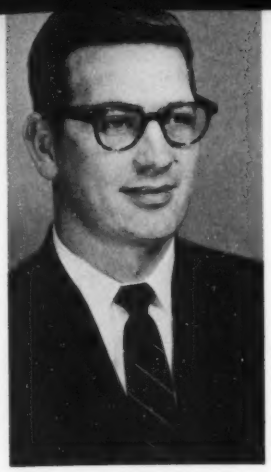
One step to correct the organization's needs is "International Graduate Achievement," made up of JA graduates. Their objective is to assist in the development, expansion and continued operation of Junior Achievement. These graduates have already established chapters in 30 areas throughout the country.

Perhaps the purpose and true value of JA is best told through the results of a national survey. The question posed to thousands of teenagers by the survey was: "In your opinion should industry be run by the government or privately operated?" More than half thought it should be owned and operated by the federal government.

This same question was put to Junior Achievers. More than 90 per cent were opposed to government ownership, for through their experience in the business world, they discovered our free enterprise system and liked what they saw. ⊙

Kemper Insurance

Lessons in safety and in fire insurance history were received by members of Busy Bee Foundry, a Chicago JA company. Group decided to produce paperweights in the form of old fire insurance marks. Youngsters here are pouring molten metal into molds. Finished product (photo at right) was an immediate sales success.



William F. Austin, first chief commissioner under his state's new commission plan for operating the insurance department.

AUSTIN OF SOUTH CAROLINA

UNDER THE URGENCY of sorely needed insurance, the territory embracing South Carolina was repossessed by the British Crown in 1729 for the present-day equivalent of $49,000. Insurance ensued in the form of better protection of life and property against the marauding Yamassee Indians.

The purchase deal was the Crown's coup d'état to supplant the proprietors who were the Carolina rulers under a land grant. But they had incited rebellion among the founding English colonists through failure to cope with the Indian assaults.

A royal governor took over in South Carolina in 1730 after a division establishing the north and south royal provinces. The state entered the Union May 23, 1788.

A measure of how the Palmetto State has grown and prospered over the years is provided by Commissioner William F. Austin's figures showing state revenues of $5.76 million a year from insurance fees and taxes.

As the eighth state of the original 13, South Carolina is among the richest of all states in U.S. history. Notable with the present generation is the Parris Island Marine Base south of Beaufort.

As a distinction from earliest days, South Carolina had the country's first fire insurance company, the Friendly Society for the Mutual Insurance of Houses Against Fire, established by royal charter at Charleston in 1736. But the Charleston of those days, ill-prepared for fire prevention or control, suffered a November 18, 1740, fire which financially ruined the Society in the burning of more than 300 houses besides storehouses, stables and wharves.

Today there are 19 mutual property companies domiciled in South Carolina with a record of 1959 business showing assets of $5.6 million, $1.3 million net losses paid and $3.3 million surplus to policyholders. Eleven of these companies each have a record of more than 60 years service, and one of them is 110 years old.

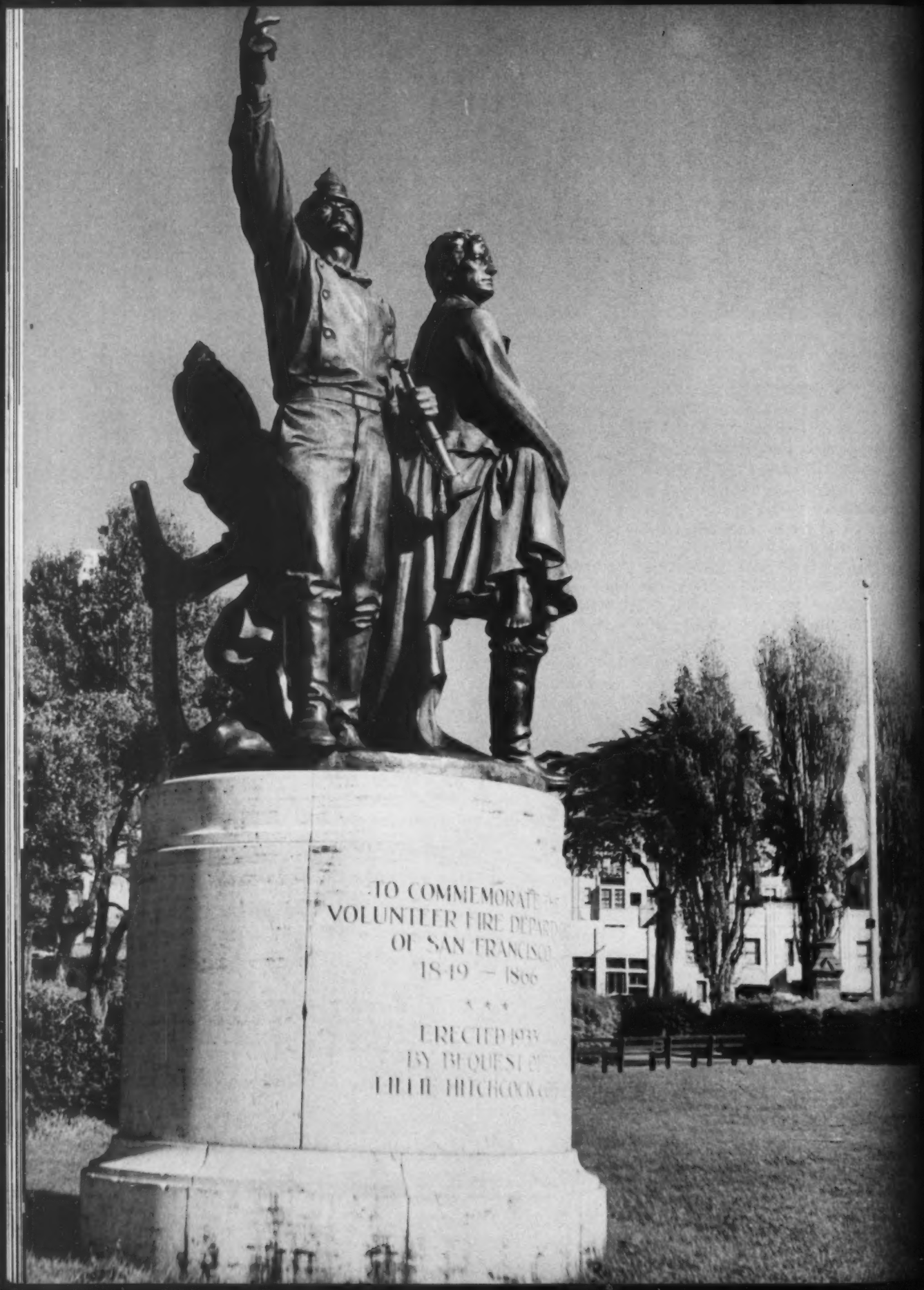
Chief Commissioner Austin has the distinction of being the first to hold office under South Carolina's new commission form of administration. Previously the state insurance commissioner had been elected by the General Assembly. Effective July 1, 1960, when Commissioner Austin took office, the state changed to a five-man commission. The commission, in turn, names the chief commissioner.

Commissioner Austin is a native of Greenwood, South Carolina, educated at Erskine College, where he was captain of the golf team for four years, and the University of South Carolina, from which he holds the degree of bachelor of laws. While still in high school, he enlisted in the Marine Corps during World War II.

For four years prior to his present post, Commissioner Austin was assistant attorney general for the state. He also has served with the motor vehicle division, was trial attorney for the counsel for State Board of Bank Control and counsel for the Legislative Committee for Investigation of Penal Systems. He is a member of both the South Carolina and American Bar Associations. In the National Association of Insurance Commissioners he is serving on three of the various committees. He and Mrs. Austin and their four children live in West Columbia. ⊙

New plants and expansions of more than $1.5 billion have further diversified industry in the state in the past 16 years.

Texize Chemicals Inc., Mauldin


TO COMMEMORATE
VOLUNTEER FIRE DEPART
OF SAN FRANCISCO
1849 — 1866
ERECTED 1933
BY BEQUEST
LILLIE HITCHCOCK